CDX-C8850R

SERVICE MANUAL

AEP Model
UK Model

Model Name Using Similar Mechanism	CDX-C7850R
CD Drive Mechanism Type	MG-363S-121
Optical Pick-up Name	KSS-521A

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Signal-to-noise ratio	98 dB
Frequency response	10 - 20,000 Hz
Wow and flutter	Below measurable limit

Tuner section

FM

Tuning range	87.5 - 108.0 MHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz 50 dB at 200 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7% (stereo), 0.4% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 - 15,000 Hz

MW/LW

Tuning range	MW : 531 - 1,602 kHz LW : 153 - 281 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.71 MHz / 450 kHz
Sensitivity	MW : 30 µV LW : 50 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 - 8 ohms
Maximum power output	45 W × 4 (at 4 ohms)

General

Outputs	Line outputs (3) Power aerial relay control lead Power amplifier control lead Telephone ATT control lead Illumination control lead
Equalizer	±12 dB; f_0 = 62 Hz, 157 Hz, 396 Hz, 1.0 kHz, 2.5 kHz, 6.34 kHz, 16 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 182 mm (w/h/d)
Mounting dimension	Approx. 182 × 53 × 163 mm (w/h/d)
Mass	Approx. 1.4 kg
Supplied accessories	Rotary commander RM-X4V (1) Microphone (1) Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/MW/LW COMPACT DISC PLAYER

MICROFILM

SONY®

SERVICE NOTE

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

NOTES ON PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.
Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

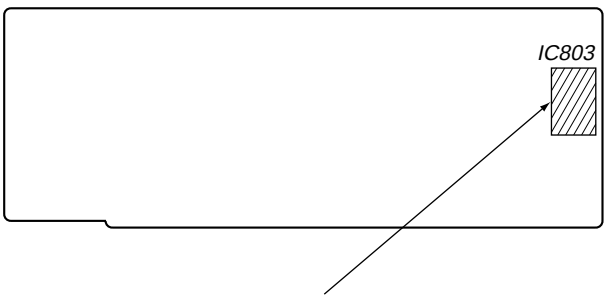
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

The destination is expressed with the model according to the language of CSV (Computer Sound Voice) mounted in the set.
How to identify the model is described below.

– POWER BOARD (side A) –



MSM534001E-49TSKFDR3 (TYPE A : ENGLISH, FRENCH)
MSM534001E-50TSKFDR3 (TYPE B : ENGLISH, SPANISH)
MSM534001E-51TSKFDR3 (TYPE C : ENGLISH, GERMAN)

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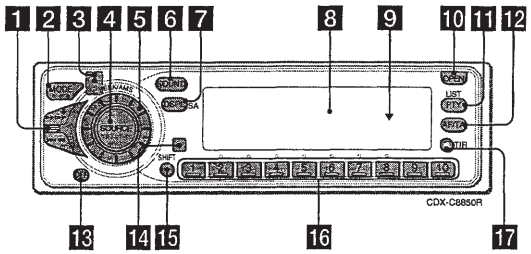
SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of controls



Refer to the pages for details.

1 SEEK/AMS (seek/Automatic Music Sensor/manual search/voice drive/voice memo select) control
9, 10, 11, 13, 18, 19, 21, 23, 32, 33, 35, 38

2 MODE (band/unit select) button
12, 13, 31, 33, 37

3 ⏏ (eject) button (located on the front side of the unit behind by the front panel) 8

4 SOURCE (source select) button
8, 12, 13, 16, 23, 24, 26, 27, 31, 33, 37

5 Dial (volume/DSO level/equalizer level/listening position/front or rear speaker volume/subwoofer volume/balance)
7, 17, 23, 24, 25, 26, 27, 28, 36, 37
Dial usually functions as a volume control except in some adjusting modes.

6 SOUND button 23, 24, 25, 26, 27, 28

7 DSPL/SA (display mode change/spectrum analyzer) button
9, 14, 15, 31, 32, 36, 37

8 Display window

9 Reset button (located on the front side of the unit behind by the front panel) 6

10 OPEN button 6, 8, 40

11 PTY/LIST button
Disc Memo 36, 37
List-up 37
RDS Programme 19

12 AF/TA button 15, 16, 17

13 OFF button* 6, 8

14 Sensor for the optional wireless remote

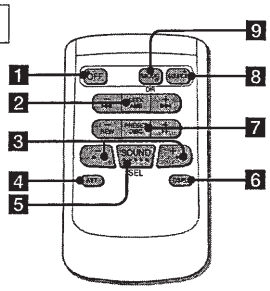
15 SHIFT button
PLAY MODE 10, 11, 12, 13, 14, 15, 17, 33, 34, 35, 38
REP 10, 33
SET UP 7, 9, 20, 31, 32
SHUF 10, 33

16 During radio reception:
Number buttons 13, 16, 17
During CD/MD playback:
Direct disc selection buttons 32

17 TIR button 17, 18

*** Warning when installing in a car without ACC (accessory) position on the ignition key switch**
Be sure to press (OFF) on the unit for two seconds to turn off the clock display after turned off the engine.
When you press (OFF) momentarily, the clock display does not turn off and this causes battery wear.

Optional wireless remote (RM-X47)



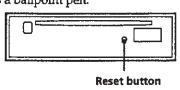
The buttons of the wireless remote have the same functions as those on the unit.

1 OFF button
2 SEEK/AMS button
3 ⊖⊕ buttons
4 ATT button
5 SOUND/SEL button
6 DSPL button
7 PRESET/DISC button
You cannot do manual search and manual tuning with the remote.
8 SOURCE button
9 MODE/DIR button

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Press the reset button with a pointed object, such as a ballpoint pen.



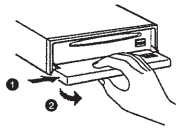
Notes
- *Pressing the reset button will erase the clock and some memorised functions.*
- *When you connect the power supply cord to the unit or reset the unit, wait for about 10 seconds before you insert a disc. If you insert a disc within these 10 seconds, the unit will not be reset, and you will have to press the reset button again.*

Detaching the front panel

You can detach the front panel of this unit to protect the unit from being stolen.

1 Press (OFF).

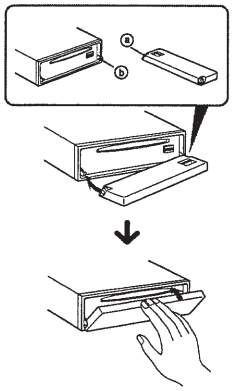
2 **Press (OPEN) to open the front panel, then slide the front panel to the right side, and pull out from the left side of the front panel.**



Notes
- *Do not place anything on the inner surface of the front panel.*
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you detach the panel while the unit is still on, the power will be turned off automatically to prevent the speakers from being damaged.*
- *When you carry the front panel with you, put it in the supplied front panel case.*

Attaching the front panel

Place the hole ⓐ in the front panel onto the spindle ⓑ on the unit as illustrated, then push the left side in.



Notes
- *Be sure not to attach the front panel upside down.*
- *Do not press the front panel hard against the unit when attaching it. Press it lightly against the unit.*
- *Do not press hard or put excessive pressure on the display windows of the front panel.*
- *Do not expose the front panel to direct sunlight or heat sources such as hot air ducts, and do not leave it in a humid place. Never leave it on the dashboard of a car parked in direct sunlight where there may be a considerable rise in temperature.*

Caution alarm

If you turn the ignition key switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds.

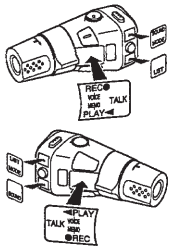
TIR indicator

If you pull out the ignition key while the TIR function is on, the TIR indicator flashes a few times.

For more information on the TIR function, refer to "Recording the traffic announcements" (page 17).

Preparing the rotary commander

When you mount the rotary commander, attach the labels as shown in the illustration below.

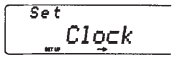


Setting the clock

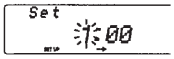
The clock uses a 24-hour digital indication.

Example: To set the clock to 10:08

1 **Press (SHIFT), then press (3) (SET UP) repeatedly until "Clock" appears.**

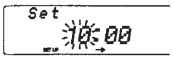


❶ Press (5) (→).

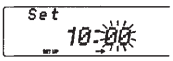


The hour digit flashes.

❷ Set the hour.

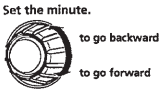


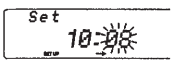
❸ Press (5) (→).



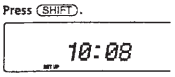
The minute digits flash.

❹ Set the minute.





2 Press (SHIFT).



The clock starts.

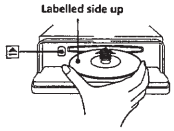
continue to next page →

3 Press (SHIFT).
After the mode setting is complete, the display returns to normal playback mode.

CD Player

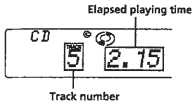
Listening to a CD

1 Press (OPEN) and insert the CD.
Playback starts automatically.



2 Close the front panel.

If a CD is already inserted, press (SOURCE) repeatedly until "CD" appears.



To	Press
Stop playback	(OFF)
Eject the CD	(OPEN) then ⏏

Changing the display item

Each time you press (DSPL/SA), the item changes as follows:

*1 *If you inserted a non-CD TEXT disc, "NO D.Name" or "NO T.Name" appears in the display.*
*2 *If you play a CD TEXT disc, the artist name appears in the display after the disc name. (Only for CD TEXT discs with the artist name.)*

After if you select the desired item, the display will be automatically change to the Motion Display mode after about a few seconds. In the Motion Display mode, all the above items are scrolled in the display one by one in order.

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 30).

You can label CD and CD TEXT discs with a personalised name using the disc memo function, refer to "Labelling a CD" (page 36). However, if you use personalised labels, they will always take priority over the original CD TEXT information when such information is displayed.

Tips
- *If the name of the CD TEXT disc is too long, you can scroll it across the display by pressing (SHIFT), then 2 (←).*
- *If you want to display the original CD TEXT information after labelling the CD TEXT disc with a personalised name, press (SHIFT), then 5 (→).*

Automatically scrolling a disc name — Auto Scroll

If the disc name/artist name or track name on a CD TEXT disc exceeds 10 characters and the Auto Scroll function is on, the disc or artist name automatically scrolls on the display as follows:
- *The disc name appears when the disc has changed (if the disc name is selected).*
- *The track name appears when the track has changed (if the track name is selected).*

If you press (DSPL/SA) to change the display item, the disc or track name of the CD TEXT disc is scrolled automatically whether you set the function on or off.

1 During playback, press (SHIFT).

2 Press 3 (SET UP) repeatedly until "A.Scrl" appears.

3 Press 5 (→) to select "A.Scrl on."

4 Press (SHIFT).

To cancel Auto Scroll, select "A.Scrl off" in step 3 above.

Note
For some CD TEXT discs with extremely many characters, the following cases may happen:
— Some of the characters are not displayed.
— Auto Scroll does not work.

Locating a specific track — Automatic Music Sensor (AMS)

During playback, push the SEEK/AMS control up or down momentarily.

To locate succeeding tracks

To locate preceding tracks

Locating a specific point in a track — Manual Search

During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.

To search forward

To search backward

Note
If "└┘└┘" or "┌┐┌┐" appears in the display, it means you have reached the beginning or the end of the disc and you cannot go any further.

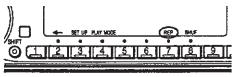
Playing a CD in various modes

You can play CDs in various modes:
- Repeat (Repeat Play) repeats the current track.
- Shuf (Shuffle Play) plays all the tracks in random order.

Playing tracks repeatedly — Repeat Play

1 During playback, press (SHIFT).

2 Press 7 (REP) repeatedly until "Repeat 1" appears.



Repeat Play starts.

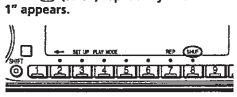
3 Press (SHIFT).

To return to the normal playback mode, select "Repeat off" in step 2 above.

Playing tracks in random order — Shuffle Play

1 During playback, press (SHIFT).

2 Press 8 (SHUF) repeatedly until "Shuf 1" appears.



Shuffle Play starts.

3 Press (SHIFT).

To return to the normal playback mode, select "Shuf off" in step 2 above.

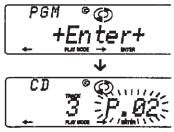
Creating a programme — CD Programme Memory

You can play the tracks in any order you want by making your own programme. You can select up to 24 tracks for a programme. You can store the programmes in memory.

1 During CD playback, press (SHIFT), then press 4 (PLAY MODE) for two seconds.

2 Push the SEEK/AMS control up or down to select the track you want.

3 Press 6 (ENTER) momentarily.



4 To continue entering tracks, repeat steps 2 and 3.

5 When you finish selecting tracks, press 4 (PLAY MODE) for two seconds.

6 Press (SHIFT).

Notes
- *"*Wait*" appears in the display while the unit is reading the data.*
- *"*Mem Full*" appears in the display when you try to enter more than 24 tracks into a programme.*

Playing the stored programme

1 Press (SHIFT).

2 Press 4 (PLAY MODE) repeatedly until "PGM" appears.

3 Press 5 (→) repeatedly until "PGM on" appears.

Programme Play starts.

4 Press (SHIFT).

To return to the normal playback mode, select "PGM off" in step 3 above.

Note
"Not ready" appears in the display if a disc that has no programmed tracks is inserted.

Erasing an entire programme

1 Press (SHIFT), then press 4 (PLAY MODE) for two seconds.

2 Press 2 (←) repeatedly until "DEL" appears.

3 Press 6 (ENTER) for two seconds.

The entire programme is erased.

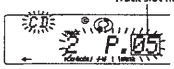
4 When you finish erasing programmes, press 4 (PLAY MODE) for two seconds.

5 Press (SHIFT).

Adding tracks to a programme

1 Press (SHIFT), then press 4 (PLAY MODE) for two seconds.

2 Press 2 (←) or 5 (→) to select the track slot number where you want to insert a track.



3 Push the SEEK/AMS control up or down to select the track you want to insert.

4 Press 6 (ENTER) momentarily to enter the track.
The current track is inserted in that slot number and the succeeding tracks shift down.

5 To continue inserting tracks, repeat steps 2 through 4.

Note
*Once all 24 slots have been filled, "*Mem Full*" appears in the display, and you cannot insert more tracks.*

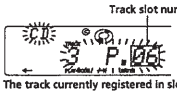
6 When you finish inserting tracks, press 4 (PLAY MODE) for two seconds.

7 Press (SHIFT).

Erasing tracks in a programme

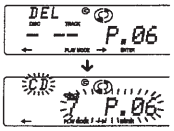
1 Press (SHIFT), then press 4 (PLAY MODE) for two seconds.

2 Press 2 (←) or 5 (→) to select the track you want to erase.



The track currently registered in slot 6.

3 Press 6 (ENTER) for two seconds.
When you erase a track from a slot number, the succeeding tracks shift up to fill the gap.



4 To continue erasing tracks, repeat steps 2 and 3.

5 When you finish erasing tracks, press 4 (PLAY MODE) for two seconds.

6 Press (SHIFT).

Radio

Memorising stations automatically

— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorises them in the order of their frequencies. You can store up to 10 stations on each band (FM1, FM2, MW, and LW).

Caution
When tuning in stations while driving, use Best Tuning Memory to prevent accidents.

1 Press (SOURCE) repeatedly to select the tuner.
Each time you press (SOURCE), the source changes as follows:
CD ↔ TUNER

2 Press (MODE) repeatedly to select the band.
Each time you press (MODE), the band changes as follows:

FM1 → FM2 → MW → LW

3 Press (SHIFT), then press 4 (PLAY MODE) repeatedly until "B.T.M" appears.

4 Press 5 (→).
The unit stores stations in the order of their frequencies on the number buttons.
A beep sounds when the setting is stored.

5 Press (SHIFT).

Notes
- *The unit does not store stations with weak signals. If only a few stations are received, some number buttons will retain their former setting.*
- *When a number is indicated in the display, the unit starts storing stations from the one currently displayed.*

Memorising only the desired stations

You can preset up to 20 FM stations (10 for FM1 and 10 for FM2), and up to 10 MW stations, and up to 10 LW stations in the order of your choice.

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band (FM1, FM2, MW, or LW).

3 Push the SEEK/AMS control up or down to tune in the station you want to store on the number button.

4 Press and hold the desired number button (1 to 10) until "MEM" appears.
The number button indication appears in the display.

Note
If you try to store another station on the same number button, the previously stored station will be erased.

Receiving the memorised stations

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band (FM1, FM2, MW, or LW).

3 Press the number button (1 to 10) momentarily where the desired station is stored.

If you cannot tune in a preset station

Push the SEEK/AMS control up or down momentarily to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Push the SEEK/AMS control up or down repeatedly until the desired station is received.

Note
If the automatic tuning stops too frequently, press (SHIFT), then press 4 (PLAY MODE) repeatedly until "Local" (local seek mode) is displayed. Then press 5 (→) to select "Local on." Press (SHIFT). Only the stations with relatively strong signals will be tuned in.

Tip
If you know the frequency of the station you want to listen to, push the SEEK/AMS control up or down and hold until the desired frequency appears (manual tuning).

If FM stereo reception is poor

— Monaural Mode

1 Press (SHIFT), then press 4 (PLAY MODE) repeatedly until "Mono" appears.

2 Press 5 (→) repeatedly until "Mono on" appears.
The sound improves, but becomes monaural ("ST" disappears).

3 Press (SHIFT).

To return to the normal mode, select "Mono off" in step 2 above.

Changing the display item

Each time you press (DSPL/SA), the item changes as follows:
Frequency (Station Name)* ↔ Clock

* *When you tune in an FM station that transmits RDS data, the station name appears.*

After if you select the desired item, the display will be automatically change to the Motion Display mode after about a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 30).

RDS

Overview of the RDS function

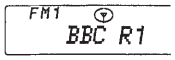
Radio Data System (RDS) is a broadcasting service that allows FM stations to send additional digital information along with the regular radio programme signal. Your car stereo offers you a variety of services. Here are just a few: re-tuning the same programme automatically, listening to traffic announcements and locating a station by programme type.

Notes
- *Depending on the country or region, not all of the RDS functions are available.*
- *RDS may not work properly if the signal strength is weak or if the station you are tuned to is not transmitting RDS data.*

Displaying the station name

The name of the current station lights up in the display.

Select an FM station (page 12).
When you tune in an FM station that transmits RDS data, the station name appears in the display.



Note
The "" indication means that an RDS station is being received.*

Changing the display item

Each time you press (DSPL/SA), the item changes as follows:
Station Name (Frequency) ↔ Clock

After if you select the desired item, the display will be automatically change to the Motion Display mode after about a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

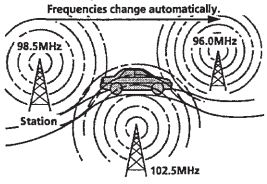
Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 30).

Note
"NO Name" appears if the received station does not transmit RDS data.

Re-tuning the same programme automatically

— Alternative Frequencies (AF)

The Alternative Frequencies (AF) function automatically selects and re-tunes the station with the strongest signal in a network. By using this function, you can continuously listen to the same programme during a long-distance drive without having to re-tune the station manually.



1 Select an FM station (page 12).

2 Press (AF/TA) repeatedly until "AF on" appears.
The unit starts searching for an alternative station with a stronger signal in the same network.

Note
When there is no alternative station in the area and you do not need to search for an alternative station, turn the AF function off by pressing (AF/TA) repeatedly until "AF TA off" appears.

Changing the display item

Each time you press (AF/TA), the item changes as follows:

AF on → TA on → AF TA on* → AF TA off →

* *Select this to turn on both the AF and TA functions.*

Notes
- *"NO AF" and the station name flash alternately, if the unit cannot find an alternative station in the network.*
- *If the station name starts flashing after selecting a station with the AF function on, this indicates that no alternative frequency is available. Push the SEEK/AMS control up or down while the station name is flashing (within eight seconds). The unit starts searching for another frequency with the same PI (Programme Identification) data ("PI seek" appears and no sound is heard). If the unit cannot find another frequency, "NO PI" appears, and the unit returns to the originally selected frequency.*

Listening to a regional programme

The "REG on" (regional on) function lets you stay tuned to a regional programme without being switched to another regional station. (Note that you must turn the AF function on.) The unit is factory preset to "REG on," but if you want to turn off the function, do the following.

1 Press (SHIFT), then press 4 (PLAY MODE) repeatedly until "REG" appears.

2 Press 5 (→) repeatedly until "REG off" appears.

3 Press (SHIFT).
Note that selecting "REG off" might cause the unit to switch to another regional station within the same network.

To return to regional on, select "REG on" in step 2 above.

Note
This function does not work in the United Kingdom and in some other areas.

Local link function (United Kingdom only)

The Local Link function lets you select other local stations in the area, even if they are not stored on your number buttons.

1 Press a number button (1 to 10) that has a local station stored on it.

2 Within five seconds, press the number button of the local station again.

3 Repeat this procedure until the desired local station is received.

Listening to traffic announcements

The Traffic Announcement (TA) and Traffic Programme (TP) data let you automatically tune in an FM station that is broadcasting traffic announcements even though you are listening to other programme sources.

Press AF/TA repeatedly until "TA on" or "AF TA on" appears.
The unit starts searching for traffic information stations. "TP" appears in the display when the unit finds a station broadcasting traffic announcements.
When the traffic announcement starts, "TA" flashes. The flashing stops when the traffic announcement is over.

Tip
If the traffic announcement starts while you are listening to another programme source, the unit automatically switches to the announcement and return to the original source when the announcement is over.

Notes
- *"NO TP" flashes for five seconds if the received station does not broadcast traffic announcements. Then, the unit starts searching for a station that broadcasts traffic announcements.*
- *When "EON" appears with "TP" in the display, the current station makes use of broadcast traffic announcements by other stations in the same network.*
- *While the unit is receiving the traffic announcements, the voice drive function and voice memo function do not work.*

To cancel the current traffic announcement

Press AF/TA or SOURCE momentarily.
To cancel all traffic announcements, turn off the function by pressing AF/TA until "AF TA off" appears.

Presetting the volume of traffic announcements

You can preset the volume level of the traffic announcements beforehand so you won't miss the announcement. When a traffic announcement starts, the volume will be automatically adjusted to the preset level.

1 Select the desired volume level.

2 Press AF/TA for two seconds.
"TA" appears and the setting is stored.

Receiving emergency announcements

If an emergency announcement comes in while you are listening to the radio, the programme will automatically switch to the announcement. If you are listening to a source other than the radio, the emergency announcements will be heard if you set AF or TA to on. The unit will then automatically switch to these announcements no matter what you are listening to at the time.

Presetting the RDS stations with the AF and TA data

When you preset RDS stations, the unit stores each station's data as well as its frequency, so you don't have to turn on the AF or TA function every time you tune in the preset station. You can select a different setting (AF, TA, or both) for individual preset station, or the same setting for all preset stations.

Presetting the same setting for all preset stations

1 Select an FM band (page 12).

2 Press AF/TA repeatedly to select either "AF on," "TA on" or "AF TA on" (for both AF and TA functions).
Note that selecting "AF TA off" stores not only RDS stations, but also non-RDS stations.

3 Press SHIFT, then press 4 (PLAY MODE) repeatedly until "B.T.M" appears.

4 Press 5 (→) until "B.T.M" flashes.

5 Press SHIFT.

Presetting different settings for each preset station

1 Select an FM band, and tune in the desired station.

2 Press AF/TA repeatedly to select either "AF on," "TA on" or "AF TA on" (for both AF and TA functions).

3 Press and hold the desired number button until "MEM" appears.
Repeat from step 1 for presetting other stations.

Tip
If you want to change the preset AF and/or TA setting after you tune in the preset station, you can do so by turning the AF or TA function on or off.

Recording the traffic announcements

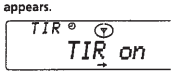
—Traffic Information Replay (TIR)

You can listen to the latest traffic announcements by recording them. The unit automatically records and stores up to eight traffic announcements. If the recording exceeds eight minutes, the recorded announcements are updated, so you can always hear the latest information.
The TIR function turns on the unit automatically and records the traffic announcements for up to two hours before and after a preset time.

Presetting the time and the station

1 Press and hold TIR until "TIR" lights up in the display.

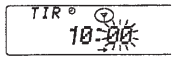
2 Press 5 (→) repeatedly until "TIR on" appears.



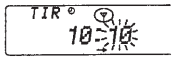
3 Press TIR repeatedly until the time indication appears.

❶ Set the hour by rotating the dial.

❷ Press 5 (→) until the minute digits flash.



❸ Set the minute by rotating the dial.

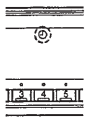


4 Press TIR.

continue to next page →

5 Select the desired station by pressing the preset number button or pushing the SEEK/AMS control up or down.

6 Press TIR for two seconds to return to the original display.
◴ lights up.



The unit turns on automatically and stands by for traffic announcements for four hours (two hours before and after the preset time).
If the preset station does not broadcast the traffic announcement while searching, the unit starts searching for other traffic programme (TP) stations.

To cancel the TIR function

Select "TIR off" in step 2 above.

Tips
- *While the unit is recording the traffic announcement, ◴ and "TA" flash.*
- *If the unit still cannot find a TP station, it starts a new search every five minutes until it finds one.*
- *If you pull out the ignition key while the TIR function is on, "TIR on" and ◴ flash a few times.*

Notes
- *The unit also stands by for traffic announcements for two hours after you turn off the engine, as long as the TIR function is on.*
- *If you have a power aerial, it automatically extends every time the unit searches for a traffic programme station.*
If you have a manual aerial, make sure that the aerial is fully extended.
- *If you do not use your car for about ten days, the TIR function will turn off automatically to avoid battery wear, even if the TIR function is on.*
- *While the unit is recording or playing back the traffic announcements, the voice drive function and voice memo function do not work.*

Playing back the recorded traffic announcements

When there are recorded traffic announcements you have not listened to yet, ◴ flashes.

1 Press TIR.
The latest traffic announcement is played back. To listen to the previous ones, press TIR or push the SEEK/AMS control up.
To replay the announcements, push the SEEK/AMS control down.
"NO Data" appears if no traffic announcements were recorded.

2 Press TIR to return to the original programme.

Locating a station by programme type

You can locate the station you want by selecting one of the programme types shown below.

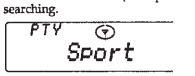
Programme types	Display
News	News
Current Affairs	Affairs
Information	Info
Sports	Sport
Education	Educate
Drama	Drama
Culture	Culture
Science	Science
Varied	Varied
Popular Music	Pop M
Rock Music	Rock M
Easy Listening	Easy M
Light Classical	Light M
Classical	Classics
Other Music Type	Other M
Weather	Weather
Finance	Finance
Children's programmes	Children
Social Affairs	Social A
Religion	Religion
Phone In	Phone In
Travel	Travel
Leisure	Leisure
Jazz Music	Jazz
Country Music	Country
National Music	Nation M
Oldies Music	Oldies
Folk Music	Folk M
Documentary	Document
Not specified	None

Note
You cannot use this function in some countries where no PTY (Programme Type selection) data is available.

1 Press PTY/LIST during FM reception until "PTY" appears.

The current programme type name appears if the station is transmitting the PTY data.
"-----" appears if the received station is not an RDS station, or if the RDS data has not been received.

2 Press PTY/LIST repeatedly until the desired programme type appears.
The programme types appear in the order shown in the above table. Note that you cannot select "None" (Not specified) for searching.

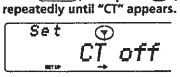


3 Push the SEEK/AMS control up or down.
The unit starts searching for a station broadcasting the selected programme type. When the unit finds the programme, the programme type appears again for five seconds.
"NO" and the programme type appear alternately for five seconds if the unit cannot find the programme type. It then returns to the previously selected station.

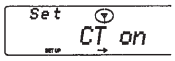
Setting the clock automatically

The CT (Clock Time) data from the RDS transmission sets the clock automatically.

1 **Press (SHIFT), then press (5) (SET UP) repeatedly until "CT" appears.**



2 **Press (5) (→) repeatedly until "CT on" appears.**
The clock is set.



3 **Press (SHIFT) to return to the normal display.**

To cancel the CT function

Select "CT off" in step 2 above.

Notes
- *The CT function may not work even though an RDS station is being received.*
- *There might be a difference between the time set by the CT function and the actual time.*

Voice Drive

You can register an appropriate vocal phrase for any source including CD/MD*, and the radio station. Once the registration is completed, you can request that source just by pronouncing the registered vocal phrase for it towards the supplied microphone. This unit provides 12 "V Drive" boxes for accommodating registered phrases.

- *When you connect to a CDMD changer with a PGM (Programme memory) function, you can request a disc in the CDMD changer.*

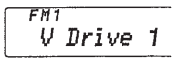
Use the rotary commander to control this function.

Note
While the unit is receiving, recording, or playing back the traffic announcements, the voice drive function does not work.

Selecting a "V Drive" box for registration

1 **Play a CD or MD, or tune in a radio station that you wish to register a phrase for.**

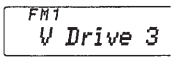
2 **Press and hold (TALK) on the rotary commander until "V Drive" appears.**



Note
When the unit enters the setting mode, the disc playback or the radio reception will be suspended.

Tip
If the "V Drive" box selected in step 2 already has a registered phrase, the source corresponding to it will be played or tuned in.

3 **Select a "V Drive" box for registration by adjusting the SEEK/AMS control either on the unit or the rotary commander.**

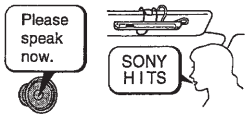


Tip
If you select an already registered box number, the registered source will be played or tuned in to.

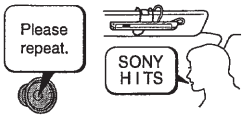
Registering a vocal phrase

1 **Once all the steps of "Selecting a "V Drive" box for registration" are completed, press (TALK) on the rotary commander .**

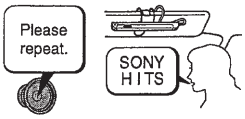
2 **After you hear the unit's vocalised instruction "Please speak now.", pronounce a desired phrase toward the supplied microphone.**



3 **After the vocalised instruction "Please repeat.", pronounce the same phrase again.**



4 **After another vocalised instruction "Please repeat.", pronounce the same phrase one more time.**



The unit records the vocal phrase in this step in order to identify the registered phrase later. When the unit answers "OK!", the registration is completed.

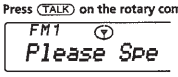
Notes
- *Do not attempt to register while driving, as this may create a traffic hazard.*
- *Be sure to reply after the unit's vocalised instruction.*
- *When a beep sound is heard, the registration failed. In this case, repeat the same process starting from step 1.*
- *Do not use phrases of similar pronunciation such as "Sony POPS 1" and "Sony POPS 2", because the unit may not be able to distinguish the difference.*
- *After you hear the unit's vocalised instruction, reply within three seconds.*

Tips
- *When you register the phrases, pronounce them clearly and loudly to make it easier for the unit to recognise them.*
- *Registration should be made while the car is parked with the engine running so that the unit will recognise your voice more easily when you are driving.*
- *Though the vocalised instructions are in English, any language can be used for registration.*
- *The volume of the vocalised instructions can be adjusted on the unit or by the rotary commander.*

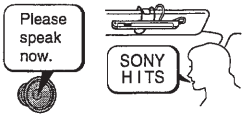
Requesting a registered source

You can request a registered source while listening to other sources or during the clock display.

1 **Press (TALK) on the rotary commander.**



2 **After you hear the unit's vocalised instruction "Please speak now.", pronounce the registered phrase such as the disc name or the radio station.**



3 **When the unit successfully recognised the phrase;**
The unit will play the disc or tune in the radio station.

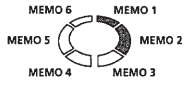
When the unit fails to recognise the phrase;
The unit replies "Please speak again."
In this case, repeat the same registered phrase.

Notes
- *When the unit fails to recognise the phrase three times, a beep sounds and the unit returns to the previous source. In this case, repeat the same process starting from step 1.*
- *If it is noisy outside the car, the unit may not recognise the registered phrase. In this case, close the window and try again.*
- *If you are far from the microphone, speak louder or come nearer to the microphone.*

Tips
- *If you do not reply within three seconds after the vocalised instruction, the unit replies "Please speak now."*
- *When you are requesting a registered source, pronounce clearly and loudly to make it easier for the unit to recognise.*
- *When the unit has difficulty recognising the phrase, register the vocal phrase again.*

Voice Memo

Voice Memo is a function that allows you to record a voiced memorandum, such as the name of a song heard on a radio programme or an idea which comes to mind. You can record up to six voice memos with this function. Note that each voice memo must be within 15 seconds.



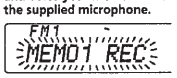
You can record or play back the voice memo when listening to any source or during the clock display.

Use the rotary commander to control this function.

Note
While the unit is receiving, recording, or playing back the traffic announcements, the voice memo function does not work.

Recording a voice memo

1 **Press (REC) on the rotary commander and voice your memorandum towards the supplied microphone.**



2 **The recording is completed by pressing (REC) again or leaving the unit untouched for 15 seconds.**

Notes
- *The voice memos are recorded as "MEMO 1", "MEMO 2", etc.,...in the order they are recorded.*
- *When a beep sounds and "MEMO FULL" appears, it means there is no room for additional voice memos. In such a case, erase the older recorded voice memos before recording new ones.*

Playing back the voice memo

1 **Press (PLAY) on the rotary commander.**
The playback starts from MEMO 1.

2 **Select the desired voice memo using the SEEK/AMS control.**

3 **Adjust the volume on the main unit or by using the rotary commander.**
The unit automatically returns to the previous source after playing back all of the voice memos.

To interrupt the playback of a voice memo

Press (PLAY) on the rotary commander.
Playback stops and the unit automatically returns to the previous source.

Erasing the voice memo

1 **Play back the voice memo to be erased.**

2 **Press and hold (PLAY) on the rotary commander until a beep sound is heard.**

The voice memo will be erased and the numbers of succeeding voice memos will move up respectively.

Erasing "MEMO 3"

"MEMO 4" moves up to "MEMO 3."

DSP

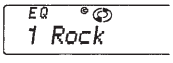
Setting the equalizer

You can select an equalizer curve for eight music types (Rock, Vocal, Jazz, Classic, Groove, Talk, Techno, and Custom).
You can store and adjust the equalizer settings for frequency and level.

Selecting the equalizer curve

1 **Press (SOURCE) to select a source (tuner, CD, or MD).**

2 **Press (SOUND) repeatedly until "EQ" appears.**



3 **Rotate the dial to select the desired equalizer curve.**

Rock ↔ Vocal ↔ Jazz ↔ Classic ↔ Groove ↔ Talk ↔ Techno ↔ Custom ↔ off

To cancel the equalizing effect, select "off."
After three seconds, the display return to the normal playback mode.

Adjusting the equalizer curve

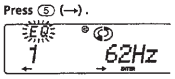
1 **Press (SOUND) for two seconds.**

2 **Press (SOUND) repeatedly until "EQ" appears.**

3 **Rotate the dial to select the desired equalizer curve.**

Rock ↔ Vocal ↔ Jazz ↔ Classic ↔ Groove ↔ Talk ↔ Techno ↔ Custom ↔ off

4 **Press (5) (→).**



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5 Press ② (←) or ⑤ (→) to select the desired frequency.

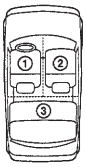
62 Hz ↔ 157 Hz ↔ 396 Hz ↔ 1.00 kHz ↔ 2.51 kHz ↔ 6.34 kHz ↔ 16.0 kHz

6 Rotate the dial to select the desired level.
If you want to change the equalizer curve to be adjusted at this time, press ② (←) repeatedly until the equalizer curve name appears to return to step 3.
To restore the factory-set equalizer curve, press ⑥ (ENTER) for two seconds.

7 Press SOUND for two seconds.
When the effect setting is complete, the normal playback mode appears.

Selecting the listening position

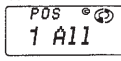
You can set a delayed time for the sound to reach the listeners from the speakers.
In this way, the unit can simulate a natural sound field so that you feel as if you are in the centre of the sound field no matter where you sit in the car.



Display window	Centre of sound field
POS 1 All	Normal setting (① + ② + ③)
POS 2 Front	Front part (① + ②)
POS 3 Front-R	Right front (②)
POS 4 Front-L	Left front (①)
POS 5 Rear	Rear part (③)
POS off	Cancel

1 Press SOURCE to select a source (tuner, CD, or MD).

2 Press SOUND momentarily until "POS" appears.



3 Rotate the dial to select the desired listening position.

All ↔ Front ↔ Front-R ↔ Front-L ↔ Rear ↔ off

The listening positions appear in the order shown above.

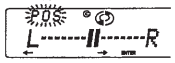
To cancel the POS mode, select "off."
After three seconds, the display returns to the normal playback mode.

Adjusting the listening position

1 Press SOUND for two seconds.

2 Press SOUND repeatedly to select "POS" appears.

3 Press ⑤ (→).



4 Rotate the dial to adjust the centre of the sound field to the left or right.

Centre moves to the L (left).

Centre moves to the R (right).

To restore the factory-set listening position, press ⑥ (ENTER) for two seconds.

5 Press ⑤ (→).

6 Rotate the dial to adjust the centre of the sound field to the front or rear.

Centre moves to the R (rear).

Centre moves to the F (front).

To restore the factory-set listening position, press ⑥ (ENTER) for two seconds.

7 Press SOUND for two seconds.
When the effect setting is complete, the normal playback mode appears.

Selecting a soundstage menu

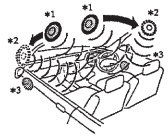
— Dynamic Soundstage Organizer (DSO)

If your speakers are installed into the lower part of the doors, the sound will come from below and may not be clear.
The DSO (Dynamic Soundstage Organizer) function creates a more ambient sound as if there were speakers in the dashboard (virtual speakers).
You can adjust the sound to your own preferences, to reproduce the ambient qualities of a concert hall or night club.

Soundstage menu

Memory presets	Meaning
1 E-STD	Virtual speakers (standard)
2 ES-CLUB	Virtual speakers (standard) + initial reflection
3 ES-LIVE	Virtual speakers (standard) + reverberation
4 E-WIDE	Virtual speakers (wide)
5 EW-CLUB	Virtual speakers (wide) + initial reflection
6 EW-LIVE	Virtual speakers (wide) + reverberation
7 LIVE	Reverberation
8 CLUB	Initial reflection
off	Cancel

Image of virtual speakers



*1 *Standard*
*2 *Wide*
*3 *Acutual speakers position (lower part of the front doors).*

Selecting the DSO

1 Press SOURCE to select a source (tuner, CD, or MD).

2 Press SOUND repeatedly until "DSO" appears.

3 Rotate the dial to select the desired DSO mode.

1 E-STD ↔ 2 ES-CLUB ↔ 3 ES-LIVE ↔ 4 E-WIDE ↔ 5 EW-CLUB ↔ 6 EW-LIVE ↔ 7 LIVE ↔ 8 CLUB ↔ off

To cancel the DSO mode, select "off."
After three seconds, the display returns to the normal playback mode.

Adjusting the DSO mode

1 Press SOUND for two seconds.

2 Rotate the dial to select the desired DSO mode.

1 E-STD ↔ 2 ES-CLUB ↔ 3 ES-LIVE ↔ 4 E-WIDE ↔ 5 EW-CLUB ↔ 6 EW-LIVE ↔ 7 LIVE ↔ 8 CLUB ↔ off

3 Press ⑤ (→).

4 Rotate the dial to select the desired effect level.

Effect 1 ↔ Effect 2 ↔ Effect 3 ↔ Effect 4 ↔ Effect 5

If you want to change the DSO mode to be adjusted at this time, press ② (←) to return to step 2.
To restore the factory-set equalizer curve, press ⑥ (ENTER) for two seconds.

5 Press SOUND for two seconds.
When the effect setting is complete, the normal playback mode appears.

Adjusting the balance (BAL)

You can adjust the sound balance from the left and right speakers.

1 Press SOURCE to select a source (tuner, CD, or MD).

2 Press SOUND repeatedly until "BAL" appears.

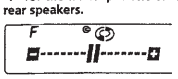
3 Rotate the dial to adjust the balance.
After three seconds, the display returns to the normal playback mode.

Adjusting the fader (FAD)

Normally, with the DSP mode on, the volume of the output sound from the front and rear speakers is lowered automatically to improve the efficiency of the listening position setting. If you want to raise the front and rear speaker volume, adjust the fader.

1 Press SOURCE to select a source (tuner, CD, or MD).

2 Press SOUND repeatedly to select the "F" for the front speakers or "R" for the rear speakers.



3 Rotate the dial to adjust the volume of front/rear speakers.

Decreases speaker volume

Increases speaker volume

After three seconds, the display returns to the normal playback mode.

Selecting the cut-off frequency of the front/rear speakers

1 Press SOUND for two seconds.

2 Press SOUND repeatedly to select "F" or "R."

3 Press ⑤ (→).

4 Rotate the dial to select the cut-off frequency.

off ↔ 78 Hz ↔ 99 Hz ↔ 125 Hz ↔ 157 Hz ↔ 198 Hz

If you want to adjust the volume of the front or rear speakers at this time, press ② (←) and rotate the dial as in step 2 of "Adjusting the fader (FAD)."

5 Press SOUND for two seconds.
When the effect setting is complete, the normal playback mode appears.

Adjusting the volume of the subwoofer(s)

1 Press SOURCE to select a source (tuner, CD, or MD).

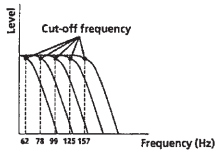
2 Press SOUND repeatedly until "SUB" appears.

3 Rotate the dial to adjust the volume.
After three seconds, the display returns to the normal playback mode.

Tip
When you rotate the dial to turn the volume all the way down, "Sub ATT" appears and the cutout frequency of the subwoofer is disabled.

Adjusting the frequency of the subwoofer(s)

To match the characteristics of the connected subwoofer(s), you can cut out the unwanted high and middle frequency signals entering the subwoofer(s). By setting the cut-off frequency (see the diagram below), the subwoofer(s) will output only low frequency signals so you can get a clearer sound image.



1 Press SOUND for two seconds.

2 Press SOUND repeatedly until "SUB" appears.

continue to next page →

3 Press (5) (↔).

4 Rotate the dial to select the desired cut-off frequency.
The cut-off frequency in the display changes as follows:

62 ⟷ 78 ⟷ 99 ⟷ 125 ⟷ 157 ⟷ off

If you want to adjust the volume of the subwoofer(s), press (2) (↔) and rotate the dial as in step 3 of "Adjusting the volume of the subwoofer(s)."

5 Press (SOUND) for two seconds.
After the frequency setting is complete, the display returns to the normal playback mode.

Listening to each programme source in its registered DSO

— Source Sound Memory (SSM)

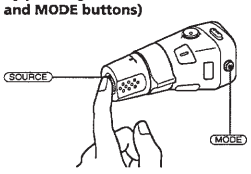
Each time you return to the same source, you can hear the same DSO menu and equalizer curve registered for that source, even after changing the programme source or turning the unit off and then on again.

Other Functions

Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.
You can also control the optional CD or MD units with the rotary commander.

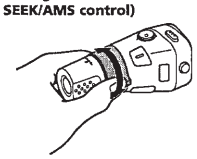
By pressing buttons (the SOURCE and MODE buttons)



Each time you press (SOURCE), the source changes as follows:
TUNER → CD → MD

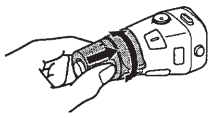
Pressing (MODE) changes the operation in the following ways;
- Tuner : FM1 → FM2 → MW → LW
- CD unit : CD1 → CD2 → ...
- MD unit : MD1 → MD2 → ...

By rotating the control (the SEEK/AMS control)



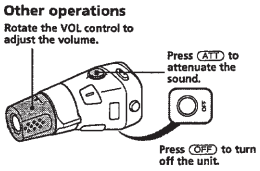
Rotate the control momentarily and release it to:
- Locate a specific track on a disc. Rotate and hold the control until you locate the specific point in a track, then release it to start playback.
- Tune in stations automatically. Rotate and hold the control to tune in a specific station.

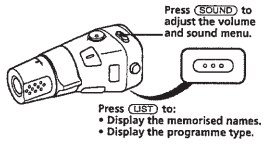
By pushing in and rotating the control (the PRESET/DISC control)

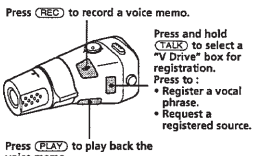


Push in and rotate the control to:
- Receive the stations memorised on the number buttons.
- Change the disc.

Other operations

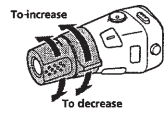




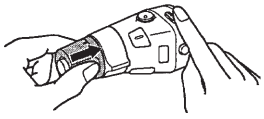

Press (REC) to record a voice memo.
Press and hold (TALK) to select a "V Drive" box for registration.
Press to :
• Register a vocal phrase.
• Request a registered source.
Press (PLAY) to play back the voice memo.
Press and hold (PLAY) to erase the voice memo.

Changing the operative direction

The operative direction of controls is factory-set as in the illustration below.



If you need to mount the rotary commander on the right side of the steering column, you can reverse the operative direction.



Press (SOUND) for two seconds while pushing the VOL control.

Tip
You can control the operative direction of controls with the unit (page 30).

Attenuating the sound

Press (ATT) on the rotary commander or optional wireless remote.
"ATT on" appears momentarily.

To restore the previous volume level, press (ATT) again.

Tip
When the interface cable of a car telephone is connected to the ATT lead, the unit decreases the volume automatically when a telephone call comes in (Telephone ATT function).

Changing the sound and display settings

The following items can be set:
- Clock (page 7).
- CT (Clock Time) (page 20).
- D.Info (Dual Information) - to display the clock and the play mode at the same time (ON) or to display the information alternately (OFF).
- SA (Spectrum Analyzer)-to change the display pattern of the equalizer display.
- Amber/Green - to change the illumination colour to amber or green.
- Dimmer - to change the brightness of the display.
  — Select "Auto" to dim the display only when you turn the lights on.
  — Select "on" to dim the display.
  — Select "off" to deactivate Dimmer.
- Contrast - to adjust the contrast if the indications in the display are not recognisable because of the unit's installed position.
- Voice guide function for vocalised comments.
  — Select "Voice 1" to minimise the volume of the guide.
  — Select "Voice 2" to increase the volume than "Voice 1."
  — Select "Voice 3" to maximise the volume of the guide.
  — Select "Voice off" to deactivate Voice guide.
- Beep - to turn on or off the beeps.
- RM (Rotary Commander) - to change the operative direction of the controls of the rotary commander.
  — Select "norm" to use the rotary commander in the factory-set position.
  — Select "rev" when you mount the rotary commander on the right side of the steering column.
- M.dspl (Motion Display) - to turn the motion display to 1, 2, or Off.
- English/Spanish - to change the vocalised comments of the voice guide and the display language to English or Spanish.
- A.Scrl (Auto Scroll) (pages 9, 32)

1 Press (SHIFT).

2 Press (3) (SET UP) repeatedly until the desired item appears.
Each time you press (3) (SET UP), the item changes as follows:

Clock → CT → D.Info* → SA* → Amber/Green → Dimmer → Contrast → Voice* → Beep → RM → M.dspl → English/Spanish → A.Scrl*

- *When you have not tune the station or there is no CD/MD being played, these items will not appear.*

Note
The display item will differ depending on the source.

3 Press (5) (↔) to select the desired setting (for example: on or off).
For the "Contrast" setting, pressing (5) (↔) makes the contrast higher, and pressing (2) (↔) makes the contrast lower.

4 Press (SHIFT).
After the mode setting is complete, the display returns to normal playback mode.

Changing the equalizer display

You can change the equalizer display according to the music you are listening to.

Selecting the display pattern

1 Press (SOURCE) to select a source (tuner, CD, or MD).

2 Press (DSPL/SA) for two seconds repeatedly to select the desired display pattern.

SA 1 → SA 2 → SA 3 → SA 4 → SA 5 → SA 6 → SA auto → SA off

With Optional Equipment
CD/MD Unit

You can control up to seven CD and MD units with this unit.
If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear in the display when you play a CD TEXT disc.

Playing a CD or MD

1 Press (SOURCE) repeatedly to select the CD or MD.

2 Press (MODE) until the desired unit appears.
CD/MD playback starts.

When a CD/MD unit is connected, all the tracks play from the beginning.

Changing the display item

Each time you press (DSPL/SA) during CD, CD TEXT, or MD playback, the item changes as follows:

*1 *If you have not labelled the disc or if there is no disc name prerecorded on the MD, "NO D.Name" appears in the display.*
*2 *If you play a CD TEXT disc, the artist name appears in the display after the disc name. (Only for CD TEXT discs with the artist name.)*
*3 *If the track name of a CD TEXT disc or MD is not prerecorded, "NO T.Name" appears in the display.*

continue to next page →

After if you select the desired item, the display will be automatically change to the Motion Display mode after about a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 30).

You can label CD and CD TEXT discs with a personalised name using the disc memo function, refer to "Labelling a CD" (page 36). However, if you use personalised labels, they will always take priority over the original CD TEXT information when such information is displayed.

Tips
- *If the name of the MD or CD TEXT disc is too long, you can scroll it across the display by pressing (SHIFT), then (2) (←).*
- *If you want to display the original CD TEXT information after labelling the CD TEXT disc with a personalised name, press (SHIFT), then (5) (→).*

Automatically scrolling a disc name — Auto Scroll

If the disc name/artist name or track name on a CD TEXT disc or MD exceeds 10 characters and the Auto Scroll function is on, the following automatically scrolls on the display:
- *The disc name appears when the disc has changed (if the disc name is selected).*
- *The track name appears when the track has changed (if the track name is selected).*

If you press (DSPL/SA) to change the display item, the disc or track name of the MD or CD TEXT disc is scrolled automatically whether you set the function on or off.

1 **During playback, press (SHIFT).**

2 **Press (3) (SET UP) repeatedly until "A.Scrl" appears.**

3 **Press (5) (→) to select "A.Scrl on."**

4 **Press (SHIFT).**

To cancel Auto Scroll, select "A.Scrl off" in step 3 above.

Note
For some CD TEXT discs with a lot of characters, the following cases may happen:
— Some of the characters are not displayed.
— Auto Scroll does not work.

Locating a specific track — Automatic Music Sensor (AMS)

During playback, push the SEEK/AMS control up or down once for each track you want to skip.

To locate succeeding tracks

To locate preceding tracks

Locating a specific point in a track — Manual Search

During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.

To search forward

To search backward

Locating a disc by disc number — Direct Disc Selection

Press the number button (1) to (10) that corresponds with the desired disc number.
The desired disc in the current unit begins playback.

Playing tracks repeatedly — Repeat Play

You can select:
- Repeat 1 - to repeat a track.
- Repeat 2 - to repeat a disc.

1 **During playback, press (SHIFT).**

2 **Press (7) (REP) repeatedly until the desired setting appears.**

Repeat 1 → Repeat 2 → Repeat off

Repeat Play starts.

3 **Press (SHIFT).**

To return to normal playback mode, select "Repeat off" in step 2 above.

Playing tracks in random order — Shuffle Play

You can select:
- Shuf 1 - to play the tracks on the current disc in random order.
- Shuf 2 - to play the tracks in the current unit in random order.
- Shuf All - to play all the tracks in random order.

1 **During playback, press (SHIFT).**

2 **Press (8) (SHUF) repeatedly until the desired setting appears.**

Shuf 1 → Shuf 2 → Shuf All* → Shuf off

Shuffle Play starts.

** "Shuf All" is only available when you connect one or more optional CD units, or when you connect two or more optional MD units.*

3 **Press (SHIFT).**

To return to normal playback mode, select "Shuf off" in step 2 above.

Creating a programme — Programme Memory (CD/MD unit with the programme memory function)

You can play tracks in any order you want by making your own programmes. You can select up to 24 tracks for a programme. You can store the programmes in memory.

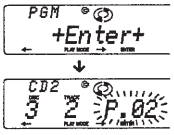
1 **During CD/MD playback, press (SHIFT), then press (4) (PLAY MODE) for two seconds.**

Programme edit mode

If you have labelled the disc, the bank edit mode appears. Press (4) (PLAY MODE) to display "P" above.

2 **Select the track you want.**
- ❶ **Press (SOURCE) repeatedly to select CD or MD.**
- ❷ **Press (MODE) repeatedly to select the unit.**
- ❸ **Press (SHIFT), then press the number button to select the disc.**
- ❹ **Press (SHIFT).**
- ❺ **Push the SEEK/AMS control up or down to select the track.**

3 **Press (6) (ENTER) momentarily.**



4 **To continue entering tracks, repeat steps 2 and 3.**

continue to next page →

5 **When you finish entering tracks, press (4) (PLAY MODE) for two seconds.**

6 **Press (SHIFT).**

Notes
- *"Wait" appears in the display while the unit is reading the data, or when a disc has not been put into the unit.*
- *"Mem Full" appears in the display when you try to enter more than 24 tracks into a programme.*

Playing the stored programme

Changing the disc order in the unit will not affect programme memory play.

1 **Press (SHIFT).**

2 **Press (4) (PLAY MODE) repeatedly until "PGM" appears.**

3 **Press (5) (→) repeatedly until "PGM on" appears.**

Programme Play starts.

4 **Press (SHIFT).**

To return to normal playback mode, select "PGM off" in step 3 above.

Notes
- *If you press a number button during programme memory play, programme memory play is interrupted, and playback of the selected disc starts.*
- *"NO Data" appears in the display if no track is stored in the programme.*
- *If a track stored into the programme memory is not in the disc magazine, the track will be skipped.*
- *When the disc magazine contains no tracks stored into the programme memory, or when the programme information has not been loaded yet, "Not ready" appears.*

Erasing an entire programme

1 **Press (SHIFT), then press (4) (PLAY MODE) for two seconds.**

If you have labelled the disc, the bank edit mode appears. Press (4) (PLAY MODE) to display "P" above.

2 **Press (2) (←) repeatedly until "DEL" appears.**

3 **Press (6) (ENTER) for two seconds.**

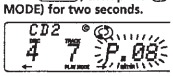
The entire programme is erased.

4 **When you finish erasing programmes, press (4) (PLAY MODE) for two seconds.**

5 **Press (SHIFT).**

Adding tracks to a programme

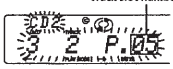
1 **Press (SHIFT), then press (4) (PLAY MODE) for two seconds.**



If you have labelled the disc, the bank edit mode appears. Press (4) (PLAY MODE) to display "P" above.

2 **Press (2) (←) or (5) (→) to select the track slot number where you want to insert a track.**

Track slot number



3 **Push the SEEK/AMS control up or down to select the track you want to insert.**

4 **Press (6) (ENTER) momentarily to enter the track.**
The current track is inserted in that slot number and the succeeding tracks shift down.
To continue inserting tracks, repeat steps 2 through 4.

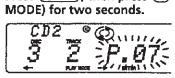
Note
Once all 24 slots have been filled, "Mem Full" appears in the display, and you cannot insert more tracks.

5 **When you finish inserting tracks, press (4) (PLAY MODE) for two seconds.**

6 **Press (SHIFT).**

Erasing tracks in a programme

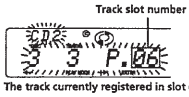
1 **Press (SHIFT), then press (4) (PLAY MODE) for two seconds.**



If you have labelled the disc, the bank edit mode appears. Press (4) (PLAY MODE) to display "P" above.

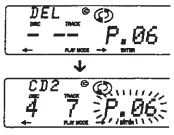
2 **Press (2) (←) or (5) (→) to select the track you want to erase.**

Track slot number



The track currently registered in slot 6.

3 **Press (6) (ENTER) for two seconds.**
When you erase a track from a slot number, the succeeding tracks shift up to fill the gap.



4 **To continue erasing tracks, repeat steps 2 and 3.**

5 **When you finish erasing tracks, press (4) (PLAY MODE) for two seconds.**

6 **Press (SHIFT).**

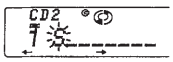
Labelling a CD — Disc Memo

(CD unit with the custom file function)

You can label each disc with a personalised name. You can enter up to eight characters for a disc. If you label a CD, you can locate the disc by name (page 37) and select the specific tracks for playback (page 38).

1 Play the CD and press (PTY/LIST) for two seconds.

2 Enter the characters.

❶ Rotate the dial clockwise to select the desired characters.
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → − → * → / → \ → > → < → . → _)

If you rotate the dial anti clockwise, the characters appear in the reverse order. If you want to put a blank space between characters, select "_" (under-bar).

❷ Press (5) (→) after locating the desired character.
The flashing cursor moves to the next space.

If you press (2) (←), the flashing cursor moves to the left.

❸ Repeat steps ❶ and ❷ to enter the entire name.

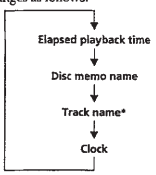
3 To return to normal CD playback mode, press (PTY/LIST) for two seconds.

Tip
To erase or correct a name enter "_" (under-bar) for each character.

Displaying the disc memo name

Press (DSPL/SA) during CD or CD TEXT disc playback.

Each time you press (DSPL/SA) during CD or CD TEXT disc playback, the item changes as follows:



* *If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear in the display when you playback a CD TEXT disc.*

After if you select the desired item, the display will be automatically change to the Motion Display mode after about a few seconds. In the Motion Display mode, all the above items are scrolled in the display one by one in order.

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 30).

Erasing the disc memo

1 Press (SOURCE) repeatedly to select CD.

2 Press (MODE) repeatedly to select the CD unit.

3 Press (PTY/LIST) for two seconds.

4 Press (DSPL/SA) for two seconds.

5 Rotate the dial to select the name you want to erase.

6 Press (6) (ENTER) for two seconds.
The name is erased.
Repeat steps 5 and 6 if you want to erase other names.

7 Press (PTY/LIST) for two seconds.
The unit returns to normal CD playback mode.

Note
When the personalised label is erased, the original CD TEXT information will appear in the display.

Locating a disc by name

— List-up (CD unit with the custom file function or MD unit)

You can use this function for discs that have been assigned a custom name. For more information on disc names, refer to "Labelling a CD" (page 36).

1 Press (PTY/LIST) momentarily.
The name assigned to the current disc appears in the display.

When you assign a disc memo label to a CD TEXT disc, it takes priority over the original CD TEXT information.

2 Press (PTY/LIST) repeatedly until you find the desired disc.

3 Press (6) (ENTER) to play back the disc.

Notes
- *After a disc name has been displayed for five seconds, the display returns to normal playback mode. To turn off the display, press (DSPL/SA).*
- *The track names are not displayed during MD or CD TEXT disc playback.*
- *If there are no discs in the magazine, "NO Disc" appears in the display.*
- *If a disc has not been assigned a custom file, "********" appears in the display.*
- *If the disc information has not been read by the unit, "?" appears in the display. To load the disc, first press the number button, then choose the disc that has not been loaded.*
- *The information appears only in upper case. There are also some letters which cannot be displayed (during MD or CD TEXT disc playback).*

Selecting specific tracks for playback

— Bank (CD unit with the custom file function)

If you label the disc, you can set the unit to skip tracks and play only the tracks you want.

1 Start playing the disc and press (SHIFT). Then press (4) (PLAY MODE) for two seconds.
Bank edit mode.

Note
If you have not labelled the disc, the bank edit mode does not appear and the programme edit mode appears. To return to normal playback mode, press (4) (PLAY MODE) for two seconds.

2 Push the SEEK/AMS control up or down to select the track number you want to skip and press (6) (ENTER).

The indication changes from "Play" to "Skip." To return the indication to"Play," press (6) (ENTER) again.

3 Repeat step 2 to set the "Play" or "Skip" mode on all the tracks.

4 Press (4) (PLAY MODE) for two seconds.
The unit returns to normal CD playback mode.

5 Press (SHIFT).

Notes
- *You can set the "Play" and "Skip" mode for up to 24 tracks.*
- *You cannot set the "Skip" mode for all the tracks.*

Playing the specific tracks only

You can select:
- Bank on - to play the tracks with the "Play" setting.
- Bank inv (Inverse) - to play the tracks with the "Skip" setting.

1 During playback, press (SHIFT), then press (4) (PLAY MODE) repeatedly until "Bank" appears.

2 Press (5) (→) to repeatedly until the desired setting appears.

Playback starts from the track following the current one.

3 Press (SHIFT).

To return to normal play mode, select "Bank off" in step 2 above.

Additional Information

Precautions

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before operating it.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- If no sound comes from the speaker systems, set the fader control to the centre position.
- If your car is equipped with a power aerial, it will extend automatically while the unit is operating.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Notes on handling CDs

A dirty or defective disc may cause sound dropouts while playing. To enjoy optimum sound, handle the disc as follows.
Handle the disc by its edge. To keep the disc clean, do not touch the surface.

Do not stick paper or tape on the labelled surface.

Do not expose the discs to direct sunlight or heat sources such as hot air-ducts, or leave them in a car parked in direct sunlight where there can be a considerable rise in the temperature inside the car.

Before playing, clean the discs with an optional cleaning cloth. Wipe each disc from the centre out.
Do not use solvents such as benzine, thinner, commercially available cleaners or antistatic spray intended for analog discs.

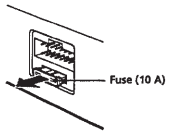
Note on moisture condensation

On a rainy day or in a very damp area, moisture may condense on the lenses inside the CD player. Should this occur, the unit will not operate properly. In this case, remove the disc and wait for about an hour until the moisture evaporates.

Maintenance

Fuse replacement

When replacing the fuse, be sure to use one that matches the amperage described on the fuse. If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

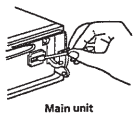


Warning

Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

Cleaning the connectors

The unit may not function properly if the connectors between the unit and the front panel are not clean. In order to prevent this, open the front panel by pressing (OPEN), then detach it and clean the connectors with a cotton swab dipped in alcohol. Do not apply too much force. Otherwise, the connectors may be damaged.



Main unit

Back of the front panel

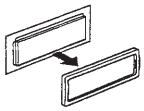
Notes

- *For safety, before cleaning the connectors, turn off the engine and remove the key from the ignition switch.*
- *Never touch the connectors directly with your fingers or any metal device.*

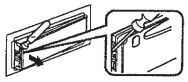
Dismounting the unit

1 **Press the clip inside the front cover with a thin screwdriver, and gently pry the front cover free.**

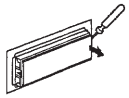
2 **Repeat step 1 on the left side.**
The front cover is removed.



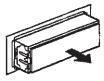
3 **Use a thin screwdriver to push in the clip on the left side of the unit, then pull out the left side of the unit until the catch clears the mounting.**



4 **Repeat step 3 on the right side.**



5 **Slide the unit out of the mounting.**



Connections

Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Connect the power connecting cord ⑧ to the unit and speakers before connecting it to the auxiliary power connector.
- **Run all earth wires to a common earth point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

Warning when installing in a car without ACC (accessory) position on the ignition key switch

Be sure to press (OFF) on the unit for two seconds to turn off the clock display after turned off the engine.
When you press (OFF) momentarily, the clock display does not turn off and this causes battery wear.

Notes of connection example

Notes on the control leads
- *The power aerial control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the AF (Alternative Frequency), the TA (Traffic Announcement) or TIR (Traffic Information Replay) function.*
- *A power aerial without a relay box cannot be used with this unit.*

Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

Notes on speaker connection
- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

Warning
If you have a power aerial without a relay box, connecting this unit with the supplied power connecting cord ⑧ may damage the aerial.

Troubleshooting Guide

The following check will assist in the correction of most problems which you may encounter with your unit. Before going through the check list below, refer to the connection and operating procedures.

Problem	Cause
• Memorized stations and correct time are erased. • The fuse has blown. • Makes noise when the ignition key is the ON, ACC and OFF positions.	Leads are not matched correctly with the car's accessory power connector.
• No power is being supplied to the unit. • The power is continuously supplied to the unit.	The car doesn't have an ACC position.
The power aerial does not extend.	The power aerial does not have a relay box.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Conecte el cable de conexión de alimentación ⑧ a la unidad y los altavoces antes de conectarlo al conector de alimentación auxiliar.
- **Conecte todos los conductores de puesta a masa a un punto común.**
- Conecte el cable amarillo a un circuito libre del automóvil que tenga una capacidad superior a la del fusible de la unidad. Si conecta esta unidad en serie con otros componentes estereofónicos, el circuito del automóvil al que se encuentran conectados debe tener una capacidad superior a la de la suma de las capacidades de los fusibles de cada componente. Si ningún circuito del automóvil tiene una capacidad tan alta como la del fusible de la unidad, conecte ésta directamente a la batería. Si el automóvil no dispone de ningún circuito para conectar esta unidad, conéctela a un circuito del automóvil con capacidad superior a la del fusible de la unidad, de forma que si se funde el fusible de ésta, no se interrumpa ningún otro circuito.

Advertencia sobre la instalación en un automóvil que no disponga de posición ACC (accesorios) en el interruptor de la llave de encendido

Asegúrese de presionar (OFF) en la unidad durante dos segundos para desactivar la indicación del reloj una vez apagado el motor.
Si presiona (OFF) momentáneamente, la indicación del reloj no se desactivará y esto causará el desgaste de la batería.

Notas de ejemplo de conexiones

Notas sobre conductores de control
- *El conductor de control (azul) de la antena motorizada suministra + 12 V CC al activar el sintonizador o la función AF (frecuencias alternativas), TA (anuncios de tráfico) o TIR (repetición de información sobre el tráfico).*
- *Con esta unidad no podrá utilizarse una antena motorizada sin caja de relés.*

Conexión para protección de la memoria
Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque ponga la llave de encendido en la posición de apagado.

Notas sobre la conexión de los altavoces
- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 ohmios y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

Advertencia
Si dispone de una antena motorizada sin caja de relé, la conexión de esta unidad con el cable de conexión de alimentación ⑧ suministrado puede dañar la antena.

Guia de solución de problemas

La siguiente lista de comprobaciones le ayudará a solucionar la mayoría de los problemas que puedan surgir con la unidad. Antes de consultar la lista, compruebe los procedimientos de conexión y funcionamiento.

Problema	Causa
• Se han borrado las emisoras memorizadas y la hora correcta. • El fusible se ha fundido. • Se produce ruido cuando la llave de encendido se encuentra en las posiciones ON, ACC y OFF.	Los cables no coinciden correctamente con el conector de alimentación accesorio del automóvil.
• La unidad no recibe alimentación. • La unidad recibe alimentación de forma continua.	El automóvil no dispone de posición ACC.
La antena motorizada no se despliega.	La antena motorizada no tiene una caja de relé.

Ligações

Advertência

- Este aparelho foi concebido para funcionar somente com corrente contínua de 12 V com negativo à massa.
- Ligue o cabo de alimentação de corrente ⑧ ao aparelho e aos alifalantes antes de o ligar ao conector de corrente auxiliar.
- **Ligue todos os fios de terra num ponto de massa comum.**
- Ligue o cabo amarelo a um circuito livre do automóvel com uma capacidade nominal superior à do fusível do aparelho. Se ligar este aparelho em série com outros componentes estéreo, o circuito do automóvel a que estão ligados deve ter uma capacidade nominal superior à soma da capacidade dos fusíveis de cada componente. Se nenhum circuito do automóvel tiver uma capacidade tão alta como a do fusível do aparelho, ligue o aparelho directamente à bateria. Se o automóvel não tiver nenhum circuito disponível para ligação do aparelho, ligue-o a um circuito com uma capacidade superior à do fusível do aparelho para que se o fusível do aparelho se fundir, nenhum dos outros circuitos seja cortado.

Aviso sobre a instalação num automóvel sem posição ACC (acessórios) na chave de ignição

Verifique se carregou em (OFF) no aparelho durante dois segundos para desactivar o visor do relógio depois de ter desligado o motor.
Se carregar ligeiramente em (OFF), não desactiva o visor do relógio o que provoca o desgaste da bateria.

Notas sobre o exemplo de ligação

Notas sobre os fios de controlo
- *O fio de controlo da antena eléctrica (azul) fornece +12 V CC quando ligar o sintonizador ou quando activar as funções AF (frequência alternativa), TA (Informações de trânsito) ou TIR (Repetição da informações de trânsito).*
- *Uma antena motorizada sem um relé não pode ser utilizada com este aparelho.*

Ligação para alimentação contínua da memória
Quando, o fio amarelo de entrada de alimentação for ligado, os circuitos de memória ficarão com alimentação contínua, mesmo se a chave de ignição estiver desligada.

Notas sobre a ligação dos altifalantes
- *Antes de ligar os altifalantes, desligue o aparelho.*
- *Utilize altifalantes com impedância de 4 a 8 ohm, e com capacidade admissível de potência adequada. Caso contrário, os altifalantes poderão sofrer avarias.*
- *Não ligue os terminais do sistema de altifalantes ao chassis do automóvel, e não ligue os terminais do altifalante direito aos terminais do altifalante esquerdo.*
- *Não tente ligar os altifalantes em paralelo.*
- *Não ligue nenhum sistema de altifalantes activos (com amplificadores incorporados) aos terminais dos altifalantes do aparelho. Caso o faça, poderá avariar o sistema de altifalantes activos. Portanto, não se esqueça de ligar altifalantes passivos a estes terminais.*

Atenção
Se a antena eléctrica não tiver uma caixa de relé, o facto de ligar esta aparelho com a cabo de alimentação ⑧ fornecido, pode provocar danos na antena.

Guia de detecção de avarias

A verificação seguinte ajuda-o a corrigir a maioria das avarias que podem ocorrer no aparelho. Antes de utilizar a lista de verificação abaixo, consulte as instruções de funcionamento e de ligação.

Problema	Causa
• As estações memorizadas e a hora correcta são apagadas. • O fusível rebentou. • Faz ruído se a ignição estiver nas posições ON, ACC e OFF.	A correspondência entre os fios de ligação e o acessório do carro que funciona como fonte de alimentação de corrente não está correcta.
• O aparelho não está a receber corrente. • O aparelho está a receber continuamente corrente.	O carro não tem posição ACC.
A antena eléctrica não estica.	A antena eléctrica não tem caixa de relé.

Anslutning

Säkerhetsföreskrifter

- Denna bilstereo är endast avsedd för anslutning till ett negativt jordat, 12 V bilbatteri.
- Anslut strömkabeln ⑧ till enheten och högtalarna innan du ansluter den till den yttre strömanslutningen.
- **Dra samtliga jordledningar till en och samma jordningspunkt.**
- Anslut den gula kabeln till en ledig bilkrets som har en säkring med ett högre ampere än enheten. Om du seriekopplar denna enhet med andra stereokomponenter, måste den bilkrets de är kopplade till ha en säkring med en högre ampere än summan av de enskilda komponenternas ampere. Om det inte finns någon bilkrets som har en säkring med ett lika högt amperetal som enheten kräver, ska du ansluta enheten direkt till batteriet. Om det inte finns några bilkretsar att ansluta denna enhet till ska du ansluta enheten till en krets som har en säkring med ett högre ampere än enheten för att förhindra att inga andra kretsar klipps av om säkringen går.

Var försiktig när du gör installationen i en bil där tändningslåset saknar tillbehörsläge (ACC)

Glöm inte att trycka på (OFF) på enheten under två sekunder för att stänga av klockans teckenfönster efter det att du har stängt av motorn.
Om du bara trycker på (OFF) ett kort ögonblick slocknar inte klockans teckenfönster vilket kan leda till att batteriet laddas ur.

Att observera angående anslutningsexemplen

Att observera angående de olika styrkablarna
- *Motorantennens styrkabel (blå) leder + 12 volts likström när du slår på radion eller när du aktiverar mottagning av alternativa frekvenser AF, mottagning av trafikmeddelanden TA eller uppspelning av trafikinformation TIR.*
- *En motorantenn utan styrreläådosa kan inte anslutas till denna bilstereo.*

Anslutning för minnesstöd
När du anslutit den gula, ingående strömkabeln försörjs minneskretsen med ström hela tiden, även när tändlåset slås ifrån.

Att observera angående högtalarnas anslutning
- *Slå av bilstereon innan du ansluter högtalarna.*
- *Anslut endast högtalare, vars impedans varierar från 4 till 8 ohm och som har tillräcklig effekthanteringskapacitet för att skydda högtalarna mot skador.*
- *Anslut inte något av högtalaruttagen till bilens chassi. Anslut inte heller uttagen på höger högtalare till uttagen på vänster högtalare.*
- *Anslut inte högtalarna parallellt.*
- *Anslut inte aktiva högtalare (med inbyggda slutsteg) till bilstereons högtalaruttag, eftersom de kan skada de aktiva högtalarna. Var noga med att bara ansluta passiva högtalare till dessa uttag.*

Varning
Om du har en motorantenn utan reläådosa kan antennen skadas om du ansluter enheten med den medföljande strömkabeln ⑧.

Felsökning

De flesta problem som kan uppstå med enheten kan åtgärdas genom att kontrollera följande. Innan du går igenom punkterna nedan bör du läsa instruktionerna för anslutning och handhavande.

Problem	Orsak
• Minneslagrade stationer och aktuell tid har raderats. • Säkringen har gått. • Störande ljud när tändningsnyckeln är i läge ON, ACC och OFF.	Kablarna är inte kopplade på rätt sätt till bilens tillbehörsanslutning.
• Ingen ström till enheten. • Kontinuerlig ström till enheten.	Bilen har inte något ACC-läge.
Motorantennen åker inte ut.	Motorantennen har ingen reläådosa.

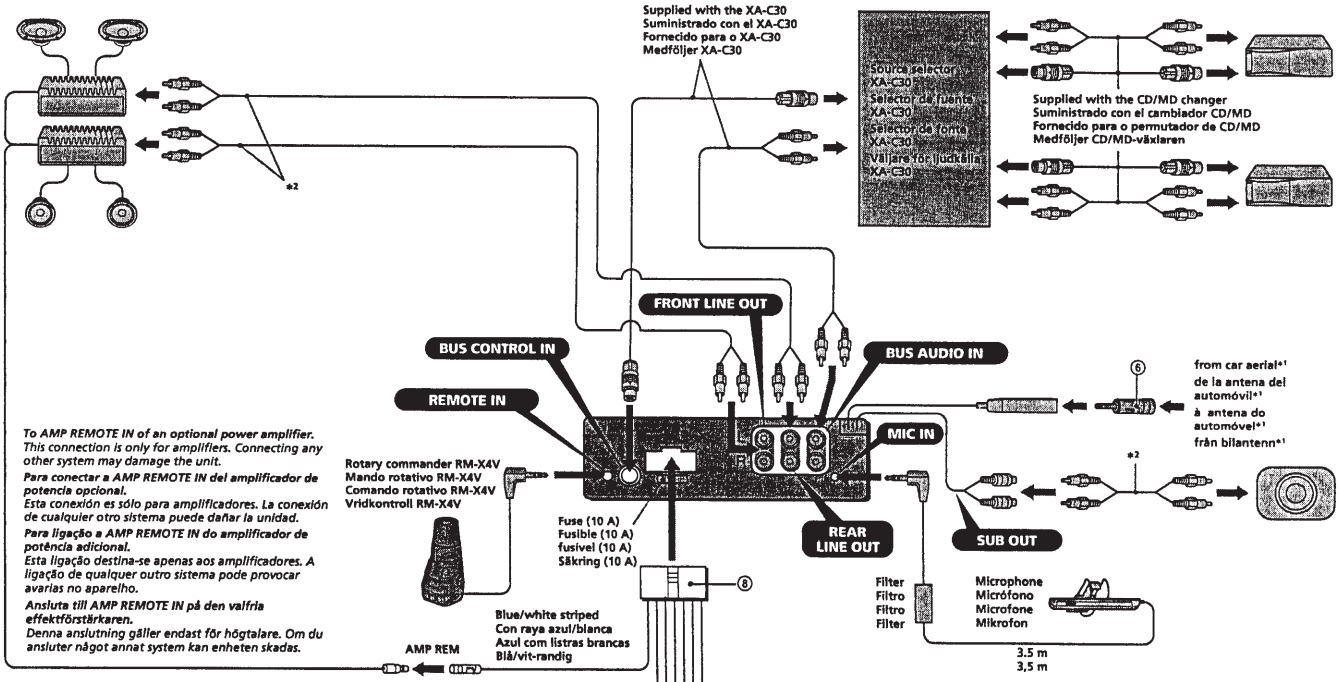
Connection example
Ejemplo de conexiones
Exemplo de ligações
Anslutningarna enligt exemplet

*¹ *Note for the aerial connecting*
If your car aerial is an ISO (International Organization for Standardization) type, use the supplied adapter ⑥ to connect it. First connect the car aerial to the supplied adapter, then connect it to the aerial jack of the master unit.
*² *RCA pin cord (not supplied)*

*¹ *Nota sobre la conexión de la antena*
Si la antena del automóvil es del tipo ISO (International Organization for Standardization), emplee el adaptador suministrado ⑥ para conectarla. En primer lugar, conecte la antena del automóvil al adaptador suministrado y, a continuación, a la toma de antena de la unidad principal.
*² *Cable con clavijas RCA (no suministrado)*

*¹ *Nota referente à ligação da antena*
Se a antena do automóvel for uma antena de tipo ISO (International Organization for Standardization), utilize o adaptador fornecido ⑥ para fazer a ligação respectiva. Ligue primeiro a antena do automóvel ao adaptador fornecido e depois à ficha tipo jack de antena do sistema principal.
*² *Cabo de terminais RCA (não fornecido)*

*¹ *Angående antennanslutning*
Om motorantennen är av ISO-typ (International Organization for Standardization), använder du medföljande adapter ⑥ för att ansluta den. Anslut först motorantennen till medföljande adapter och därefter till antennuttaget på huvudenheten.
*² *Kabel med RCA-kontakter (medföljer inte)*

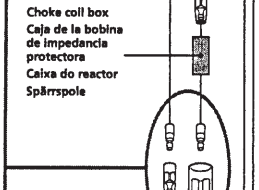

Supplied with the XA-C30
Suministrado con el XA-C30
Fornecido para o XA-C30
Medföljer XA-C30
Source selector XA-C30
Selector de fuente XA-C30
Selector de fonte XA-C30
Väljare för ljudkälla XA-C30
Supplied with the CD/MD changer
Suministrado con el cambiador CD/MD
Fornecido para o permutador de CD/MD
Medföljer CD/MD-växlaren
*2
FRONT LINE OUT
BUS CONTROL IN
BUS AUDIO IN
REMOTE IN
MIC IN
from car aerial*¹
de la antena del automóvil*¹
à antena do automóvel*¹
från bilantenn*¹
⑥
*2
To AMP REMOTE IN of an optional power amplifier.
This connection is only for amplifiers. Connecting any other system may damage the unit.
Para conectar a AMP REMOTE IN del amplificador de potencia opcional.
Esta conexión es sólo para amplificadores. La conexión de cualquier otro sistema puede dañar la unidad.
Para ligação a AMP REMOTE IN do amplificador de potência adicional.
Esta ligação destina-se apenas aos amplificadores. A ligação de qualquer outro sistema pode provocar avarias no aparelho.
Ansluta till AMP REMOTE IN på den valfria effektförstärkaren.
Denna anslutning gäller endast för högtalare. Om du ansluter något annat system kan enheten skadas.
Rotary commander RM-X4V
Mando rotativo RM-X4V
Comando rotativo RM-X4V
Vridkontroll RM-X4V
Fuse (10 A)
Fusible (10 A)
fusível (10 A)
Säkring (10 A)
REAR LINE OUT
SUB OUT
Filter
Filtro
Filtro
Filter
Microphone
Micrófono
Microfone
Mikrofon
3.5 m
3,5 m
⑧
Blue/white striped
Con raya azul/blanca
Azul com listras brancas
Blå/vit-randig
AMP REM
Max. supply current 0.3 A
Corriente máx. de alimentación de 0,3 A
Corrente máxima de 0,3 A
Maximal strömtillförsel 0,3 A

WARNING
Auxiliary power connectors may vary depending on the car.
Be sure to check the power connection diagram sheet supplied with the unit. Improper connections may damage your car.
If the supplied power connecting cord cannot be used with your car, consult your nearest Sony dealer.

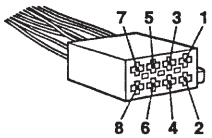
ADVERTENCIA
Los conectores de alimentación auxiliar pueden variar en función del automóvil.
Asegúrese de consultar el diagrama de conexión de alimentación suministrado con la unidad. Las conexiones incorrectas pueden dañar el automóvil.
Si no es posible utilizar el cable de conexión de alimentación suministrado con el automóvil, póngase en contacto con el proveedor Sony más próximo.

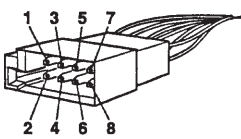
ATENÇÃO
Os conectores de corrente auxiliares podem variar de carro para carro.
Não se esqueça de verificar o diagrama de ligação de corrente fornecido com o aparelho.
As ligações mal executadas podem danificar o seu carro.
Se não puder utilizar o cabo de alimentação fornecido no seu carro, contacte o agente Sony da sua zona.

VARNING
Typen av yttre strömanslutning varierar från bil till bil.
Kontrollera strömanslutningsschemat som medföljer enheten så att du ansluter på rätt sätt. Felaktig anslutning kan skada bilen.
Kontakta närmaste Sony-återförsäljare om den medföljande strömkabeln inte passar till din bil.

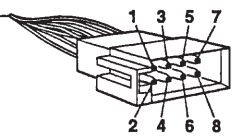


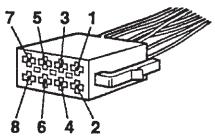
to a car's auxiliary power connector
a un conector de alimentación auxiliar del automóvil
a um conector de alimentação auxiliar do automóvel
till bilens yttre strömanslutning.





to a car's speaker connector
a un conector de altavoces del automóvil
verso un connettore del diffusore dell'auto
till bilens högtalaranslutning





4	Yellow / Amarillo / Amarelo / Gul	continuous power supply suministro de alimentación continuo alimentação de corrente contínua kontinuerlig strömförsörjning	
5	Blue / Azul / Azul / Blå	power aerial control control de antena motorizada antena eléctrica styrström för motorantenn	
6	Orange/White / Naranja/blanco / Cor de laranja/branco / Orange/vit	switched illumination power supply fuente de alimentación de iluminación conmutada fonte de alimentação comutada para iluminação switchad strömförsörjning till belysning	
7	Red / Rojo / Vermelho / Röd	switched power supply suministro conmutado de alimentación alimentação de corrente comutada switchad strömförsörjning	
8	Black / Negro / Preto / Svart	earth toma de tierra Terra jord	

Positions 1, 2 and 3 do not have pins.
Las posiciones 1, 2 y 3 no disponen de pines.
As posições 1, 2 e 3 não têm pinos.
Positionerna 1, 2 och 3 saknar stift.

1	Purple / Púrpura / Violeta / Violett	+	Speaker, Rear, Right Altavoz, parte posterior, derecho Altifalante, Parte de trás, Direito Högtalare, bakre, höger	5	White / Blanco / Branco / Vit	+	Speaker, Front, Left Altavoz, parte frontal, izquierdo Altifalante, Parte da frente, Esquerdo Högtalare, främre, vänster
2		–	Speaker, Rear, Right Altavoz, parte posterior, derecho Altifalante, Parte de trás, Direito Högtalare, bakre, höger	6		–	Speaker, Front, Left Altavoz, parte frontal, izquierdo Altifalante, Parte da frente, Esquerdo Högtalare, främre, vänster
3	Grey / Gris / Cinza / Grå	+	Speaker, Front, Right Altavoz, parte frontal, derecho Altifalante, Parte da frente, Direito Högtalare, främre, höger	7	Green / Verde / Verde / Grön	+	Speaker, Rear, Left Altavoz, parte posterior, izquierdo Altifalante, Parte de trás, Esquerdo Högtalare, bakre, vänster
4		–	Speaker, Front, Right Altavoz, parte frontal, derecho Altifalante, Parte da frente, Direito Högtalare, främre, höger	8		–	Speaker, Rear, Left Altavoz, parte posterior, izquierdo Altifalante, Parte de trás, Esquerdo Högtalare, bakre, vänster

Negative polarity positions 2, 4, 6, and 8 have striped cords.
Las posiciones de polaridad negativa 2, 4, 6 y 8 tienen cables con raya.
As posições 2, 4, 6 e 8 (polaridade negativa) têm cabos às riscas.
De negativa polpositionerna 2, 4, 6 och 8 har randiga kablar.

Power connection diagram

Auxiliary power connector may vary depending on the car. Check your car's auxiliary power connector diagram to make sure the connections match correctly. There are three basic types (illustrated below). You may need to switch the positions of the red and yellow leads in the car stereo's power connecting cord.
After matching the connections and switched power supply leads correctly, connect the unit to the car's power supply. If you have any questions and problems connecting your unit that are not covered in this manual, please consult the car dealer.

Diagrama de conexión de alimentación

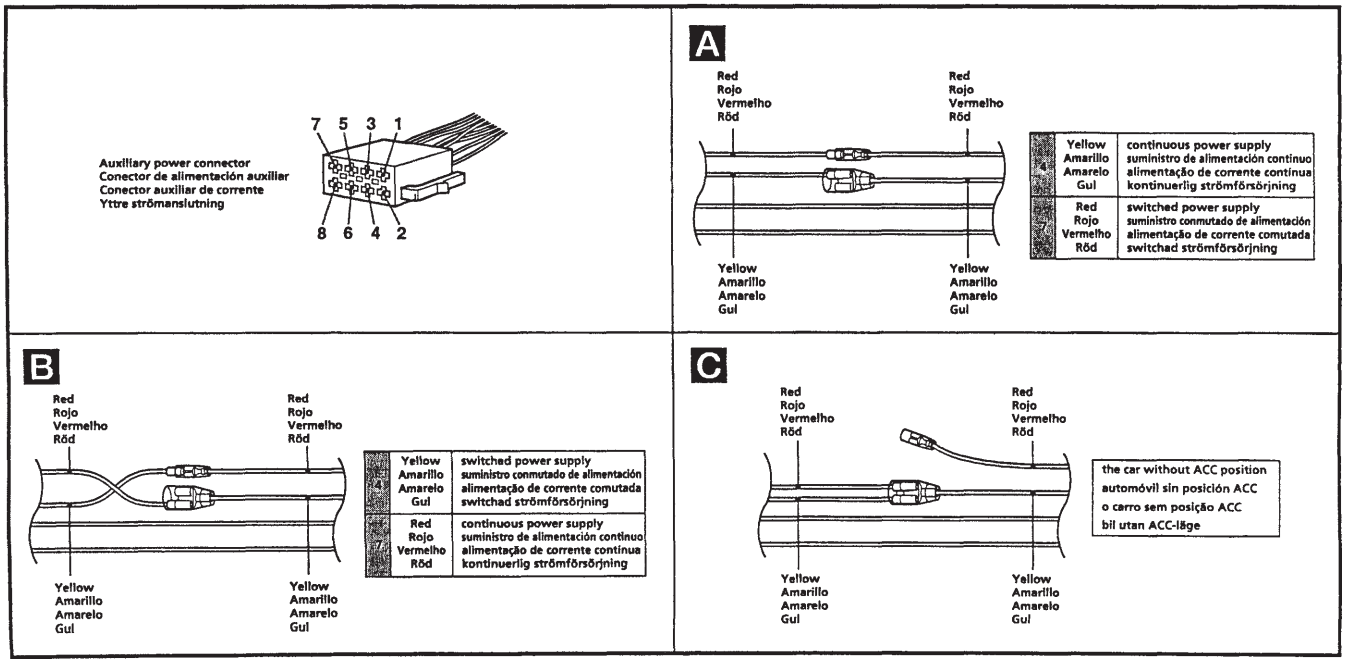
El conector de alimentación auxiliar puede variar en función del automóvil. Compruebe el diagrama del conector de alimentación auxiliar del automóvil para asegurarse de que las conexiones coinciden correctamente. Existen tres tipos básicos, ilustrados a continuación. Es posible que sea necesario cambiar las posiciones de los cables rojo y amarillo del cable de conexión de alimentación del sistema estéreo del automóvil. Después de hacer coincidir correctamente las conexiones y los cables de alimentación conmutada, conecte la unidad al suministro de alimentación del automóvil. Si desea realizar alguna consulta o solucionar algún problema referentes a la conexión de la unidad que no aparezcan en este manual, consulte con el concesionario automovilístico.

Diagrama de ligação de corrente

O conector auxiliar de corrente pode variar de carro para carro. Verifique o diagrama do conector auxiliar de corrente para se certificar de que as ligações estão bem feitas. Existem três tipos de conectores (ilustrados abaixo). Pode ter que mudar as posições dos cabos vermelho e amarelo do cabo de alimentação do sistema estéreo do automóvel.
Depois de fazer a correspondência entre as ligações e os pinos de alimentação de corrente comutada, ligue o aparelho à fonte de alimentação do carro. Se tiver alguma dúvida ou problema relacionado com o aparelho que não esteja incluído neste manual, consulte o concessionário.

Kopplingsschema

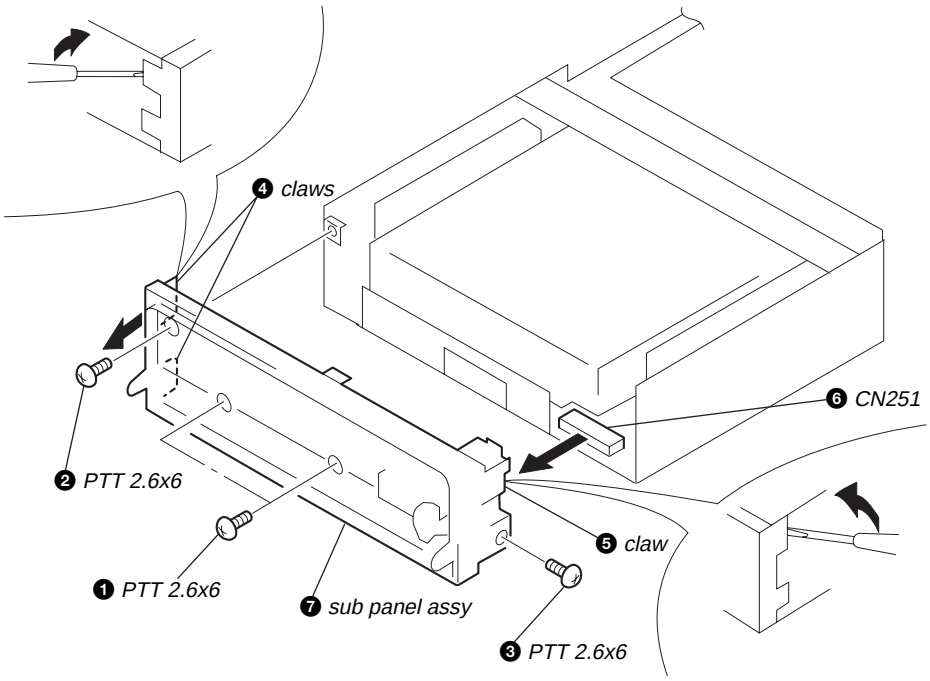
Typen av yttre strömanslutning varierar från bil till bil. Kontrollera kopplingsschemat så att du ansluter på rätt sätt. Det finns tre grundläggande anslutningstyper (visas nedan). Du kan eventuellt behöva byta plats på de röda och gula kablarna i bilstereons strömanslutning.
När du har matchat ihop anslutningarna och den switchade strömförsörjningen korrekt ansluter du enheten till bilens strömförsörjning. Om du får problem eller har frågor som inte besvaras i den här bruksanvisningen kan du kontakta bilåterförsäljaren.



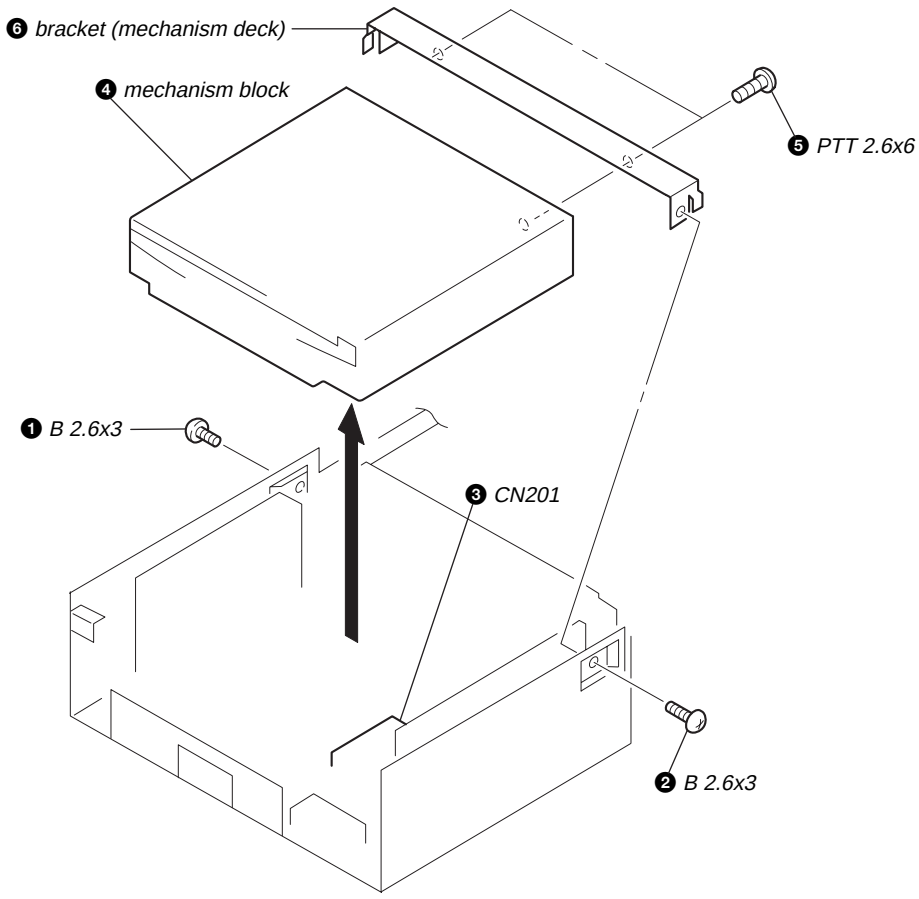
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

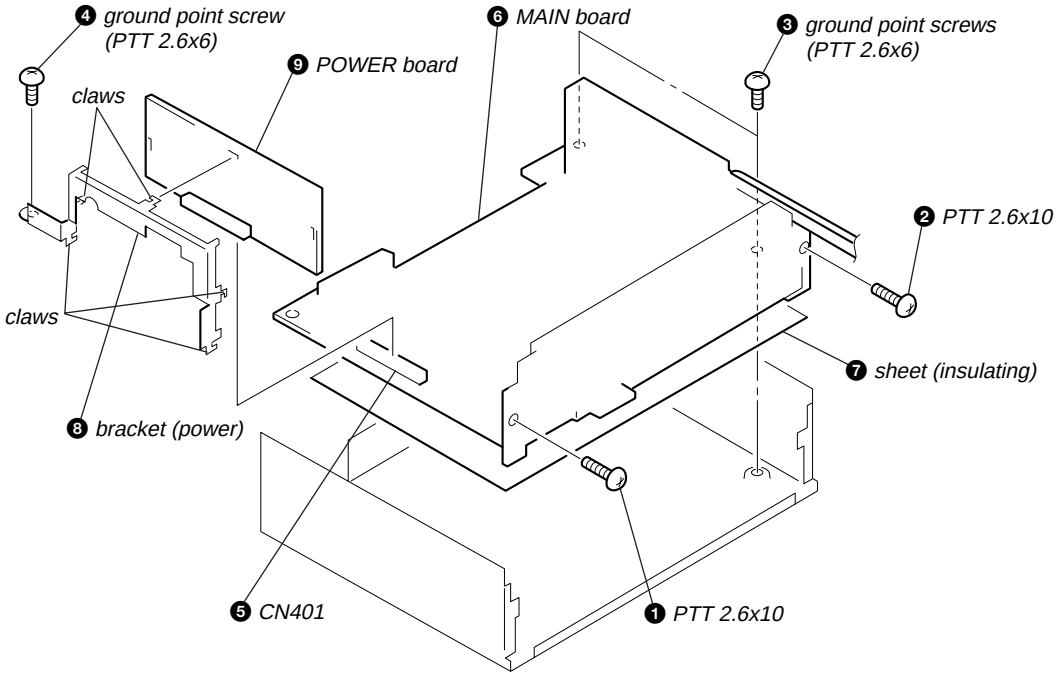
2-1. SUB PANEL ASSY



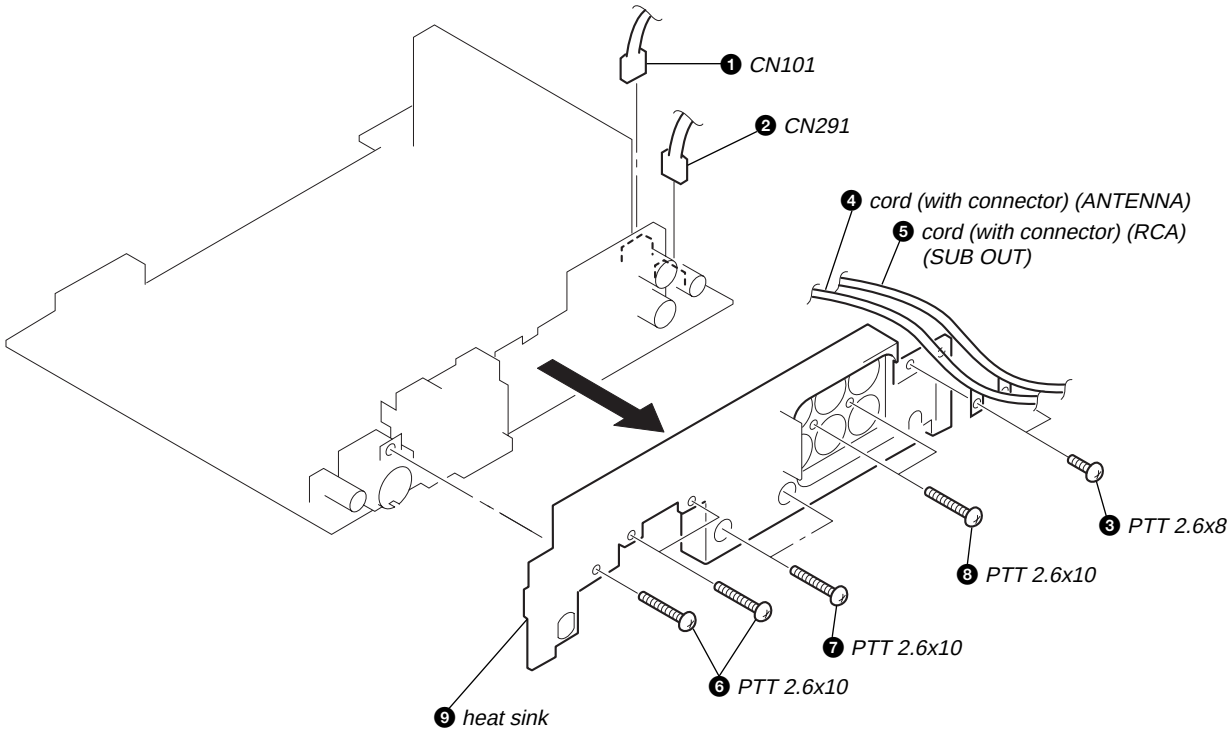
2-2. MECHANISM BLOCK



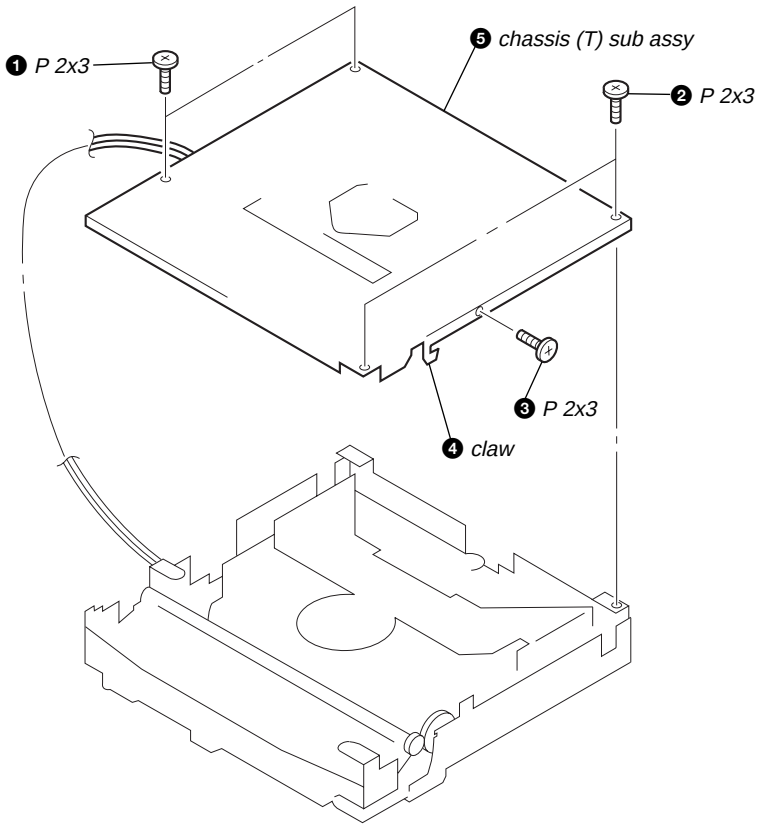
2-3. MAIN BOARD, POWER BOARD



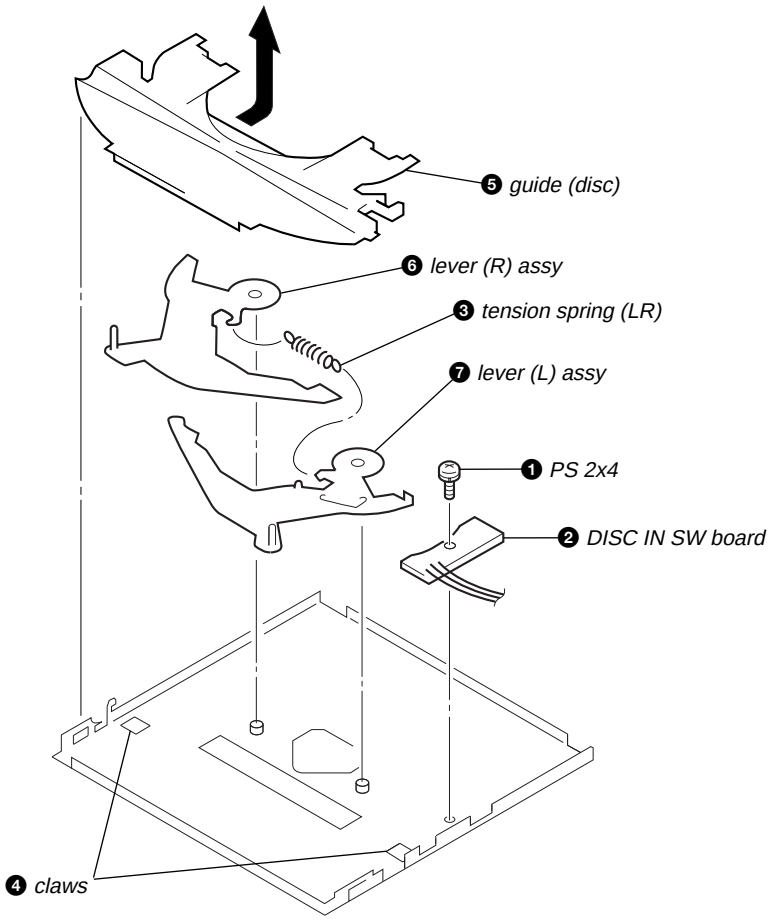
2-4. HEAT SINK



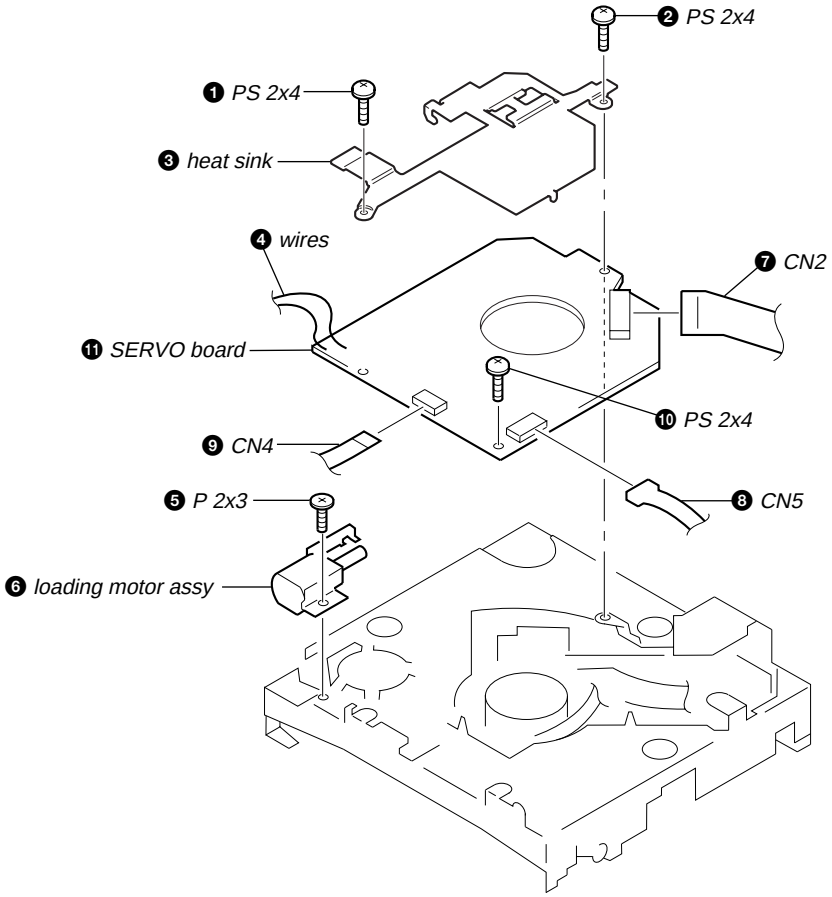
2-5. CHASSIS (T) SUB ASSY



2-6. LEVER ASSY



2-7. SERVO BOARD



2-8. ROLLER ASSY

• When installing, take note of the positions arm (roller) and washers. (Fig. 1)

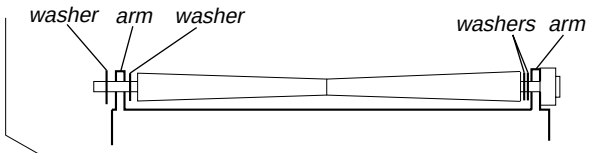
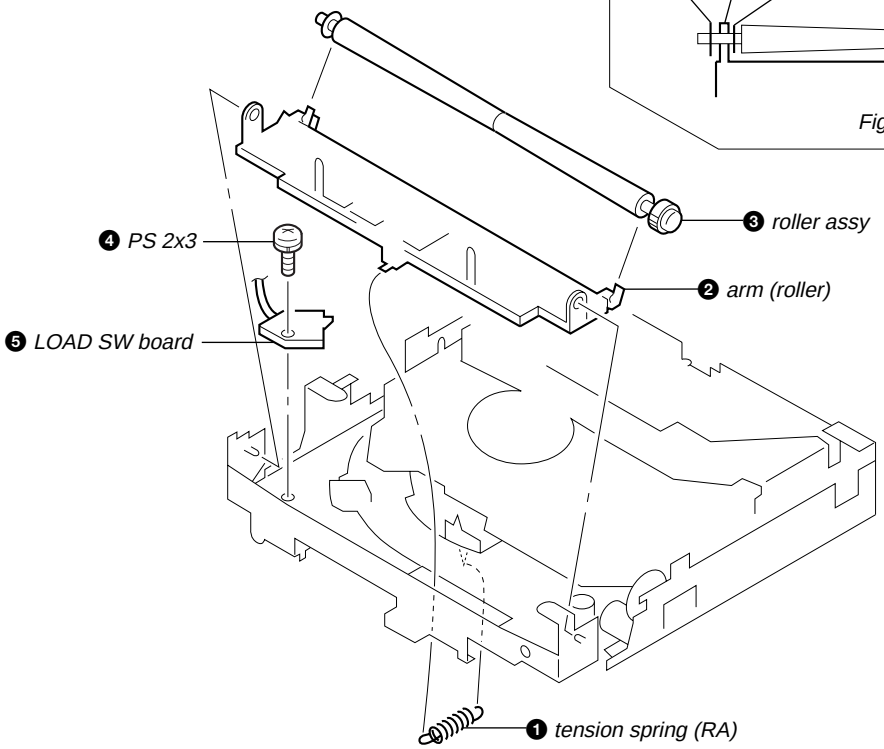
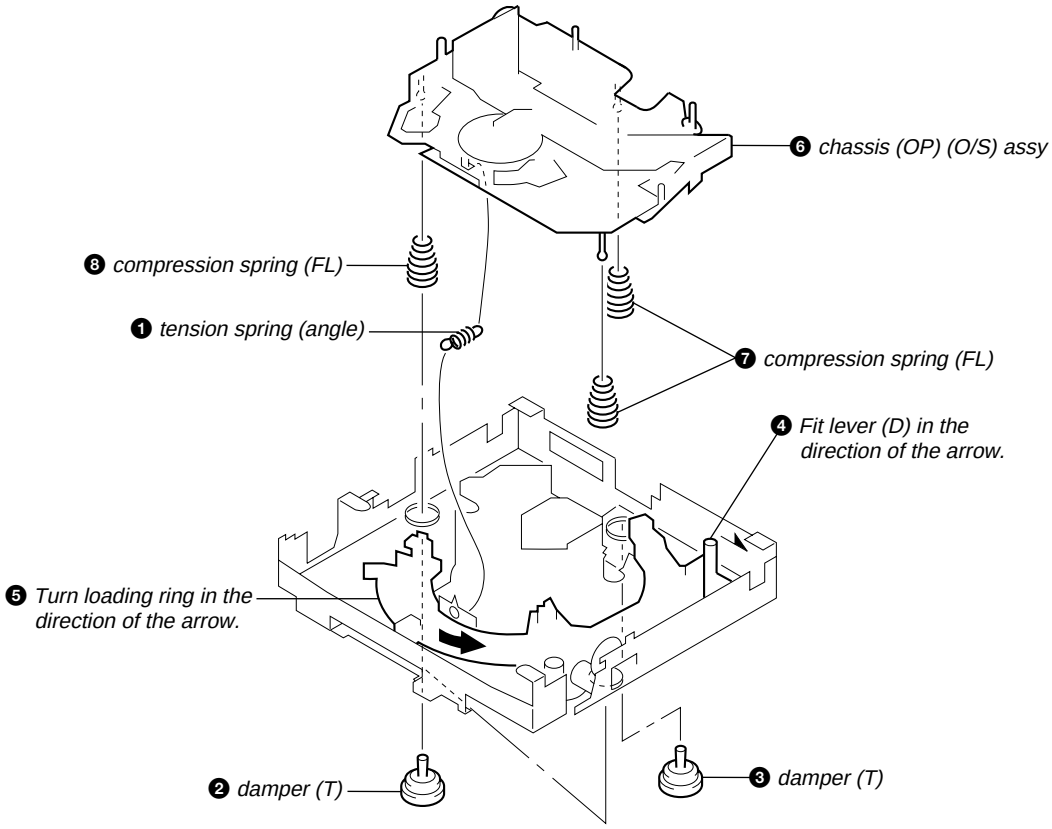


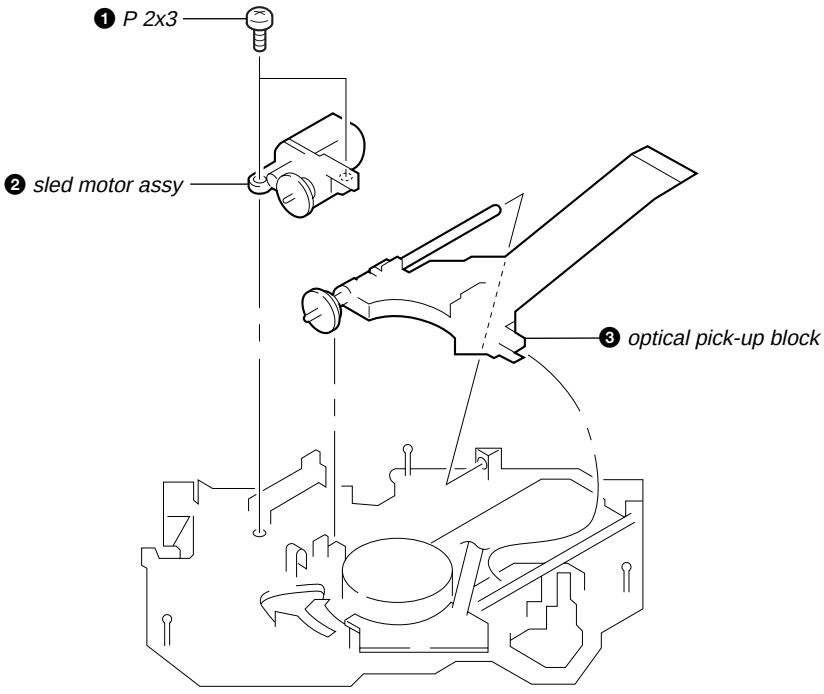
Fig. 1



2-9. CHASSIS (OP) (O/S) ASSY


❻ chassis (OP) (O/S) assy
❽ compression spring (FL)
❶ tension spring (angle)
❼ compression spring (FL)
❹ Fit lever (D) in the direction of the arrow.
❺ Turn loading ring in the direction of the arrow.
❷ damper (T)
❸ damper (T)

2-10. OPTICAL PICK-UP BLOCK



SECTION 3
ELECTRICAL ADJUSTMENTS

CD SECTION

CD section adjustments are done automatically in this set.

TUNER SECTION 0 dB = 1 µV

Cautions during repair

When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and MW Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>

1. Set the “OFF” mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test Mode>

1. Push the [OFF] button.

Note on Adjustment

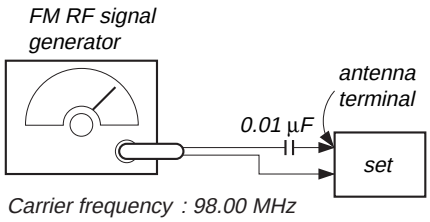
The adjustments of tuner section, should be performed according to the following sequence.

1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment (WIDE)
3. FM Stereo Separation Adjustment (NARROW)
4. FM RDS S-Meter Adjustment
5. MW Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting :

SOURCE button : FM 98.00 (MHz)

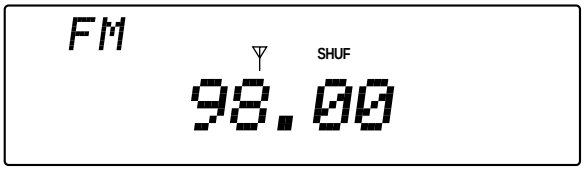


Carrier frequency : 98.00 MHz
Output level : 22 dB (12.6 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

Procedure :

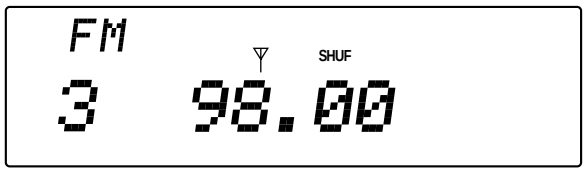
1. Set to the test mode.
2. Push the [SOURCE] button and set to FM.

Display



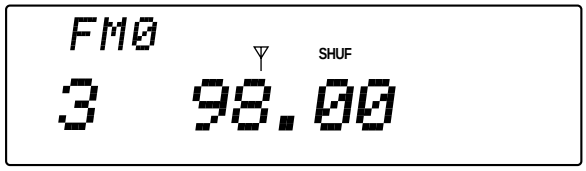
3. Push the preset [3] button.

Display



4. Adjust with the volume RV2 on TU101 so that the “FM” indication turns to “FM0” indication on the display window. But, in case of already indicated “FM0”, turn the RV2 so that put out light “0” indication and adjustment.

Display

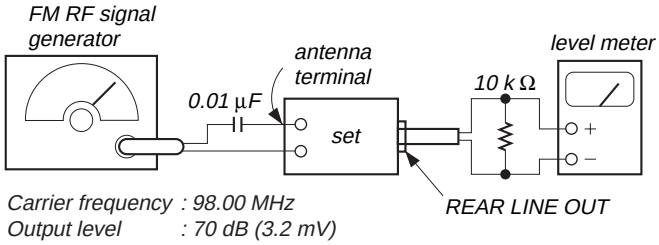


Adjustment Location : See page 24.

FM Stereo Separation Adjustment (WIDE)

Setting :

SOURCE button : FM 98.00 (MHz)



Carrier frequency : 98.00 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main : 1 kHz, 20 kHz deviation (26.7%)
sub : 1 kHz, 20 kHz deviation (26.7%)
19 kHz pilot : 7.5 kHz deviation (10%)

Procedure :

1. Set to the test mode. (See page 21.)
2. Push the SHIFT button.
3. Push the 4 button three times.
4. Push the 5 button once and set to WIDE mode.

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV3 on TU101 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV3 on TU101 for minimum reading.

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

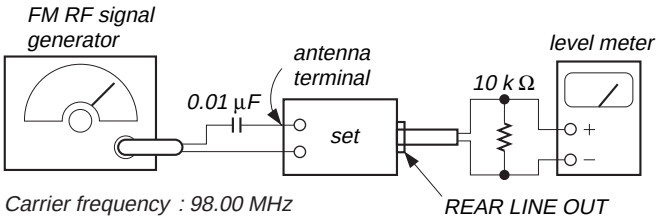
Specification : Separation more than 24 dB

Adjustment Location : See page 24.

FM Stereo Separation Adjustment (NARROW)

Setting :

SOURCE button : FM 98.00 (MHz)



Carrier frequency : 98.00 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main : 1 kHz, 20 kHz deviation (26.7%)
sub : 1 kHz, 20 kHz deviation (26.7%)
19 kHz pilot : 7.5 kHz deviation (10%)

Procedure :

1. Set to the test mode. (See page 21.)
2. Push the SHIFT button.
3. Push the 4 button three times.
4. Push the 5 button twice and set to NARROW mode.

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU101 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU101 for minimum reading.

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

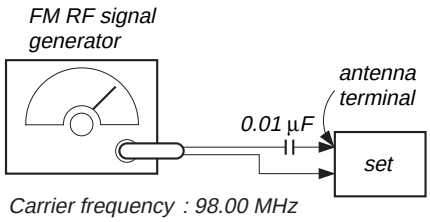
Specification : Separation more than 18 dB

Adjustment Location : See page 24.

FM RDS S-Meter Adjustment

Setting :

SOURCE button : FM 98.00 (MHz)

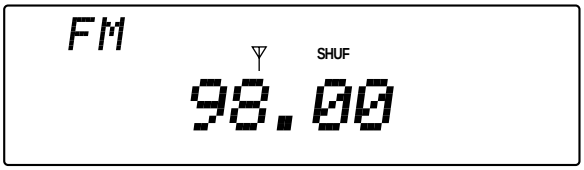


Carrier frequency : 98.00 MHz
Output level : 35 dB (56.2 µV)
Mode : mono
Modulation : no modulation

Procedure :

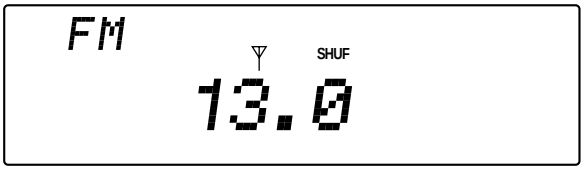
1. Set to the test mode. (See page 21.)
2. Push the SOURCE button and set to FM.

Display



3. Push the preset 10 button.
4. Adjust RV131 so that the display indication is “13.0”.

Display



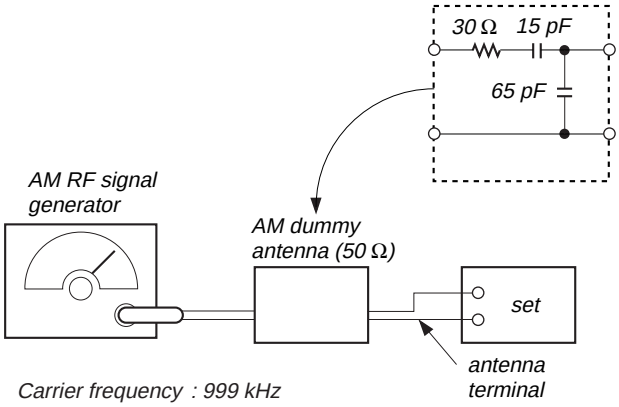
Specification : Display indication : 12.8 to 13.2.

Adjustment Location : See page 24.

MW Auto Scan/Stop Level Adjustment

Setting :

SOURCE ⟶ MODE button : MW 999 (kHz)

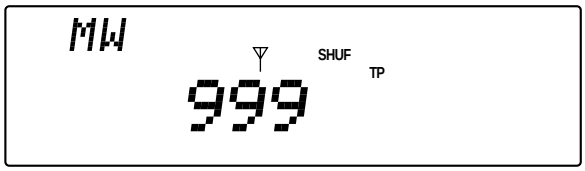


Carrier frequency : 999 kHz
30% amplitude modulation by 1 kHz signal
output level : 33 dB (44.7 µV)

Procedure :

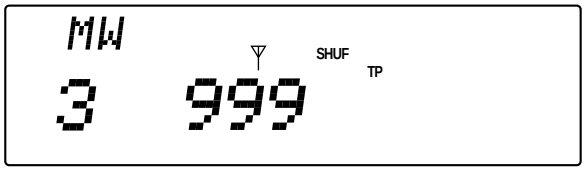
1. Set to the test mode. (See page 21.)
2. Push the SOURCE button.
3. Push the MODE button and set to MW.

Display



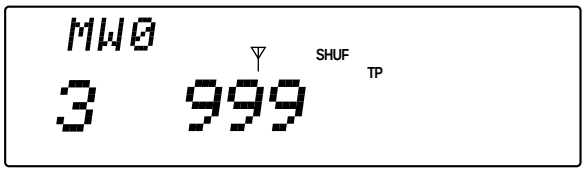
4. Push the preset 3 button.

Display



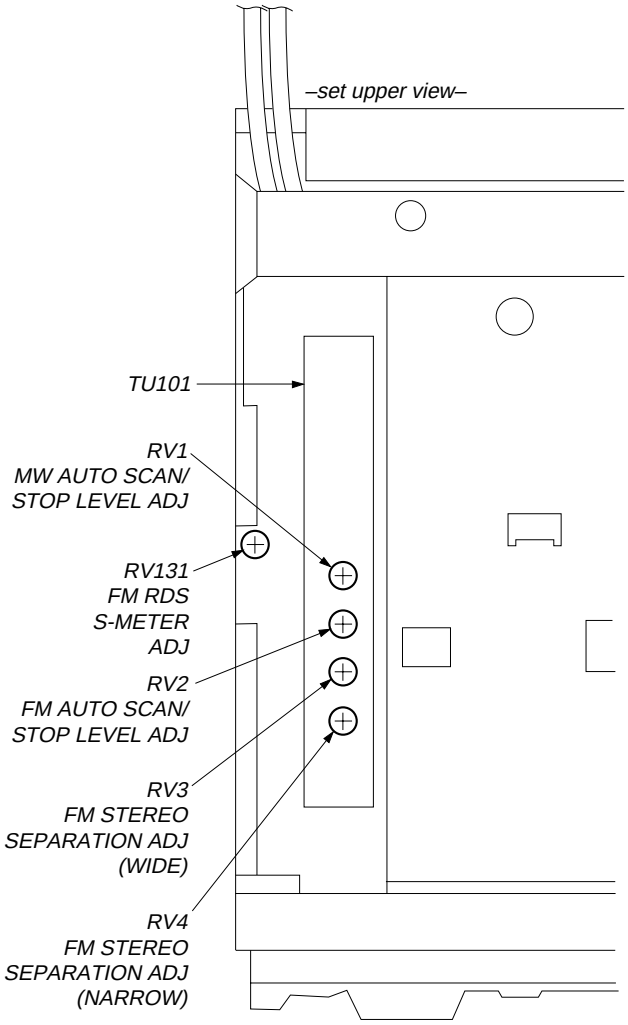
5. Adjust with the volume RV1 on TU101 so that the “MW” indication turns to “MW0” indication on the display window. But, in case of already indicated “MW0”, turn the RV1 so that put out light “0” indication and adjustment.

Display



Adjustment Location : See page 24.

Adjustment Location : tuner unit (TU101)



SECTION 4
DIAGRAMS

4-1. IC PIN DESCRIPTIONS

• IC501 CXD2548R (DIGITAL SERVO, DIGITAL SIGNAL PROCESSOR) (SERVO BOARD)

Pin No.	Pin Name	I/O	Pin Description
1	SYSM	I	System mute input (Not used.)
2	RMUT1	O	R-ch, “0” detection output. (“H” : ON, “L” : OFF) (Not used.)
3	LMUT2	O	L-ch, “0” detection output. (“H” : ON, “L” : OFF) (Not used.)
4	CKOUT	O	Master clock frequency division output (Not used.)
5	VDD0	—	Digital power supply
6	SBSO	O	Serial output of sub-P to W.
7	EXCK	I	Clock input for SBSO read output.
8	SQCK	I	Clock input for SQSO read output.
9	SQSO	O	SubQ 80 bit, PCM peak and level data 16 bit output.
10	SENS	O	SENS output. Output to CPU.
11	SCLK	I	Clock input for SENS real data read.
12	DATA	I	Serial data input from CPU.
13	XLAT	I	Latch input from CPU. Latch serial data at the falling edge.
14	CLOK	I	Serial data transfer clock input from CPU.
15	XRST	I	System reset (“L” : Reset)
16	ACDT	O	Not used.
17	PWM1	I	External control input of spindle motor.
18	XLON	O	Microcomputer extension interface (Output) (Not used.)
19	SPOA	I	Microcomputer extension interface (Input A) (Not used.)
20	WFCK	O	WFCK (Write Flame Clock) output
21	GTOP	O	GTOP output
22	XUGF	O	XUGF output (Not used.)
23	XPCK	O	XPLCK output (Not used.)
24	GFS	O	GFS output
25	RFCK	O	RFCK output
26	C2PO	O	C2PO output (Not used.)
27	XROF	O	XROF output
28	SCOR	O	“H” output at either detection, sub code sync S0 or S1.
29	MNT0	O	MNT0 output (Not used.)
30	MNT1	O	MNT1 output (Not used.)
31	MNT3	O	MNT3 output (Not used.)
32	VSS1	—	Digital GND
33	DOUT	O	Digital-Out output
34	ATSK	I	For anti-shock.
35	MIRR	O	Mirror signal output (Not used.)
36	DFCT	O	Diffect signal output (Not used.)
37	FOK	O	Focus OK signal output
38	VDD1	—	Digital power supply
39	VPCO1	O	Charge pump output for wideband EFM PLL.
40	VPCO2	O	VCO2 charge pump output for wideband EFM PLL.
41	VCK.I	I	VCO2 oscillator input for wideband EFM PLL.
42	V16M	O	VCO2 oscillator output for wideband EFM PLL.
43	VCTL	I	VCO2 control input for wideband EFM PLL.
44	PCO	O	Charge pump output for master PLL.
45	FILO	O	Filter output for master PLL (slave = digital PLL).
46	FILI	I	Filter input for master PLL.
47	AVSS4	—	Analog GND
48	CLTV	I	VCO control voltage input for master.
49	AVDD4	—	Analog power supply
50	RFAC	I	EFM signal input
51	BIAS	I	Asymmetry circuit constant current input

Pin No.	Pin Name	I/O	Pin Description
52	ASY.I	I	Asymmetry comparate voltage input
53	ASY.O	O	EFM full-swing output (“L” : VSS, “H” : VDD)
54	VC	I	Center voltage input
55	FE	I	Focus error signal input
56	SE	I	Sled error signal input
57	TE	I	Tracking error signal input
58	CE	I	Center error signal input
59	RFDC	I	RF signal input
60	RFC	I	Condenser connection pin for LPF time constant of RF signal.
61	ADIO	O	OP amplifier output (Not used.)
62	AVSS3	—	Analog GND
63	IGEN	I	Current source reference resistor connection for OP amplifier.
64	AVDD3	—	Analog power supply
65, 66	TES2, 3	I	TEST pin (Fixed at “L”.)
67	VSS2	—	Digital GND
68	TEST	I	TEST pin (Fixed at “L”.)
69	SFDR	O	Sled drive output
70	SRDR	O	Sled drive output
71	TFDR	O	Tracking drive output
72	TRDR	O	Tracking drive output
73	FFDR	O	Focus drive output
74	FRDR	O	Focus drive output
75	VDD2	—	Digital power supply
76	COUT	O	Track number count signal output (Not used.)
77	LOCK	O	Not used.
78	MDS	O	Servo control output of spindle motor. (Not used.)
79	MDP	O	Servo control output of spindle motor.
80	SSTP	I	Disc most inner track detection signal input
81	FSTO	O	2/3 frequency division output of pins 103 and 104.
82	FSTI	I	Reference clock input for digital servo.
83	XTSL	I	X’tal select input (“L” : 16.9344 MHz)
84	C4M	O	4.2336 MHz output
85	WDCK	O	D/A interface. Word clock f = 2Fs
86	VDD3	—	Digital power supply
87	LRCK	O	D/A interface. LR clock f = Fs
88	LRCKI	I	LR clock input to DAC. (48 bit slot) (Connect to GND.)
89	PCMD	O	D/A interface. Serial data (2’s COMP, MSB first)
90	PCMDI	I	Audio data input to DAC. (48 bit slot) (Connect to GND.)
91	BCK	O	D/A interface. Bit clock
92	BCKI	I	Bit clock input to DAC. (48 bit slot) (Connect to GND.)
93	EMPH	O	Not used.
94	EMPHI	I	De-emphasis ON/OFF of DAC. (“H” : ON, “L” : OFF) (Connect to GND.)
95	VSS3	—	Digital GND
96	AVSS1	—	L-ch, Analog GND.
97	AVDD1	—	L-ch, Analog power supply.
98	AOUT1	O	L-ch, Analog output. (Not used.)
99	AIN1	I	L-ch, OP amplifier input. (Connect to GND.)
100	LOUT1	O	L-ch, LINE output. (Not used.)
101	AVSS1	—	L-ch, Analog GND.
102	XVDD	—	Analog power supply for master clock.
103	XTAI	I	X’tal oscillator input of master clock (16.9344 MHz).
104	XTAO	O	X’tal oscillator output of master clock. (Not used.)
105	XVSS	—	Analog GND for master clock. (Connect to GND.)

Pin No.	Pin Name	I/O	Pin Description
106	AVSS2	—	R-ch, Analog GND.
107	ROUT2	O	R-ch, LINE output. (Not used.)
108	AIN2	I	R-ch, OP amplifier input. (Connect to GND.)
109	AOUT2	O	R-ch, Analog output. (Not used.)
110	AVDD2	—	R-ch, Analog power supply.
111	AVSS2	—	R-ch, Analog GND.
112	VSS0	—	Digital GND

• IC5 CXP84640-050Q (CD SYSTEM CONTROL) (SERVO BOARD)

Pin No.	Pin Name	I/O	Pin Description
1 – 5	NCO	—	Not used in this set.
6	FP OPEN	I	Front panel open detection input
7	FP CLOSE	O	Front panel close control output
8	LINKOFF	I	Bus interface link input (Not used in this set.)
9	DRV OE	O	Focus/tracking coil/sled motor control output
10	$\overline{\text{D SW}}$	I	Down switch input (SW4)
11 – 13	NCO	—	Not used in this set.
14	LM EJ	O	Loading motor control output
15	LM LOD	O	Loading motor control output
16	EMPH O	O	De-emphasis ON/OFF control output
17	$\overline{\text{CDMON}}$	O	CD mechanism deck power control output
18	$\overline{\text{CD ON}}$	O	CD power control output
19	A MUT	O	System attenuate control output
20	$\overline{\text{LD ON}}$	O	Laser power ON/OFF control output
21	$\overline{\text{CD RST}}$	O	CD system reset output
22 – 24	—	—	Not used in this set.
25	PH3	I	Not used in this set.
26	TSTIN0	I	Not used in this set.
27	TSTIN1	I	Not used in this set.
28	$\overline{\text{TST CLV}}$	I	Not used in this set.
29	NCO	—	Not used in this set.
30	$\overline{\text{RESET}}$	I	System reset input (“L” = Reset)
31	$\overline{\text{X IN}}$	I	X’tal oscillator input of system clock. (10 MHz)
32	$\overline{\text{X OUT}}$	O	X’tal oscillator output of system clock. (10 MHz)
33	GND	—	Analog GND
34	$\overline{\text{XT OUT}}$	O	Not used in this set.
35	$\overline{\text{XT IN}}$	I	Not used in this set.
36	AVSS	—	A/D converter GND
37	AVREF	I	A/D converter reference voltage input
38	TEP L	I	Not used in this set.
39	TEP H	I	Not used in this set.
40	NCO	—	Not used in this set.
41	PH2	I	Not used in this set.
42	SCLK	O	CD-TEXT data read clock output
43	$\overline{\text{ESPXQOK}}$	O	XQOK signal output to DRAM controller.
44	ESPSDT	I	Serial data input from DRAM controller.
45	$\overline{\text{GRSRST}}$	O	Reset signal output to DRAM controller.
46	GRSCOR	I	Sub-cord sync input from DRAM controller.
47	CD XLAT	O	CD signal process serial latch output
48	TX CLK	O	EEPROM serial clock output
49	TX DATA	O	EEPROM serial data output
50	UNISO	O	Not used in this set.
51	BUS CLK	I/O	Bus system serial clock input/output
52	BUS SI	I	Bus system serial interface input
53	BUS SO	O	Bus system serial interface output
54	F OK	I	Focus OK signal input
55	GFS	I	GFS signal detection input
56	SCOR	O	Sub-cord sync output
57	SENS	I	SENS signal input
58	—	I	Fixed at “H” in this set.
59	CD CKO	O	CD signal process serial clock output

Pin No.	Pin Name	I/O	Pin Description
60	BU.IN	I	Back-up power detection input
61	$\overline{\text{BUSON}}$	I	Bus on control input
62	$\overline{\text{IN SW}}$	I	Disc in switch input (SW1)
63	$\overline{\text{SELF SW}}$	I	Self switch input (SW2)
64	$\overline{\text{TX CE}}$	O	EEPROM chip enable output
65	SCK2	O	Sub Q read clock output
66	SI2	I	Sub Q 80 bit, PCM peak and level data 16 bit input
67	CD DATA	O	CD signal process serial data output
68	$\overline{\text{ESPXWRE}}$	O	Write signal output to DRAM controller.
69	$\overline{\text{ESPXRDE}}$	O	Read signal output to DRAM controller.
70	$\overline{\text{ESPXLT}}$	O	Serial data latch output to DRAM controller.
71	$\overline{\text{ESPXSOE}}$	O	XSOE signal output to DRAM controller.
72	VDD	—	Power supply
73	HIN	I	Fixed at “H” in this set.
74	TEXT.ON/OFF	I	Fixed at “H” in this set.
75	PH1	I	Not used in this set.
76	FBTBSEL	I	Not used in this set.
77	$\overline{\text{CDOSEL}}$	I	Not used in this set.
78 – 80	—	—	Not used in this set.

• IC300 CXD2727Q (DIGITAL SIGNAL PROCESSOR) (MAIN BOARD)

Pin No.	Pin Name	I/O	Pin Description
1	VSS1	—	Digital ground
2 – 15	TD0 – 13	I	Test pin (Normally, fixed at “L”.)
16 – 21	TST0 – 5	I	Test pin (Normally, fixed at “L”.)
22 – 24	JPE1 – 3	I	External condition jump input (“H” : condition jump) (Fixed at “L” in this set.)
25	VDD1	—	Digital power supply pin (+3.3 V)
26	AVS3	—	Analog ground (for D/A converter 1)
27	FL-OUT	O	Analog signal output for front (L-ch) output.
28	AVD3	—	Analog power supply pin (+3.3 V) (for D/A converter 1)
29	RL-OUT	O	Analog signal output for rear (L-ch) output.
30	AVD5	—	Analog power supply pin (+3.3 V) (for D/A converter 1)
31	AVS5	—	Analog ground (for D/A converter 1)
32	AVD1	—	Analog power supply pin (+3.3 V) (for A/D converter L-ch)
33	AVS1	—	Analog ground (for A/D converter L-ch)
34	LREF	O	Pass control connection pin for A/D converter. (for L-ch)
35	LIN	I	Tuner and bus audio in signal input (for L-ch)
36	AVS7	—	Analog ground (for D/A converter 2)
37	AVD7	—	Analog power supply pin (+3.3 V) (for D/A converter 2)
38	NCO	—	Not used. (Open)
39	AVDX	—	Analog power supply pin (+3.3 V) (for master clock)
40	XTLO38	O	System clock output (16.9344 MHz)
41	XTLI38	I	System clock input (16.9344 MHz)
42	AVSX	—	Analog ground (for master clock)
43	SUB-OUT	O	Analog signal output for sub woofer output.
44	AVD8	—	Analog power supply pin (+3.3 V) (for D/A converter 2)
45	AVS8	—	Analog ground (for D/A converter 2)
46	RIN	I	Tuner and bus audio in signal input (for R-ch)
47	RREF	O	Pass control connection pin for A/D converter. (for R-ch)
48	AVS2	—	Analog ground (for A/D converter R-ch)
49	AVD2	—	Analog power supply pin (+3.3 V) (for A/D converter R-ch)
50	AVS6	—	Analog ground (for D/A converter 3)
51	AVD6	—	Analog power supply pin (+3.3 V) (for D/A converter 3)
52	RR-OUT	O	Analog signal output for rear (R-ch) output.
53	AVD4	—	Analog power supply pin (+3.3 V) (for D/A converter 3)
54	FR-OUT	O	Analog signal output for front (R-ch) output.
55	AVS4	—	Analog ground (for D/A converter 3)
56	VSS2	—	Digital ground
57	$\overline{\text{RST}}$	I	System reset signal input from system control (IC500). (“L” : reset)
58	BFOT	O	Master clock output for CD.
59	SCK	I	Clock signal input for serial data transfer from system control (IC500).
60	REDY	O	Micon interface transfer permission signal output to system control (IC500). (“L” : transfer prohibit)
61	TRDT	O	Serial data output to system control (IC500).
62	$\overline{\text{LAT}}$	I	Serial data latch pulse input from system control (IC500).
63	RVDT	I	Serial data input from system control (IC500).
64	$\overline{\text{XS24}}$	I	Serial data 24/32 bit slot select signal input from system control (IC500). (“L” : 24 bit slot, “H” : 32 bit slot) (Valid at slave mode.)
65	VDD2	—	Digital power supply pin (+3.3 V)
66	VSS3	—	Digital ground
67 – 69	SO1 – 3	O	Serial data output (Not used in this set.)
70	SOUT	O	Serial data output (Not used in this set.)
71	SI1	I	Serial data input
72, 73	SI2, 3	I	Serial data input (Fixed at “L” in this set.)

Pin No.	Pin Name	I/O	Pin Description
74	SIN	I	Serial data input (Fixed at “L” in this set.)
75	BCK	I	Clock signal input for serial bit transfer of serial input/output data.
76	LRCK	I	Sampling frequency clock signal input of serial input/output data.
77	$\overline{\text{XMST}}$	I	Bit clock (BCK) and L/R sampling clock (LRCK) signal master/slave mode select signal input from system control (IC500). (“L” : master mode, “H” : slave mode)
78	VDD3	—	Digital power supply pin (+3.3 V)
79	AVSP	—	PLL system ground
80	$\overline{\text{PLLEN}}$	I	PLL enable signal input (Normally, fixed at “L”.)
81	PLCLK	O	PLL clock signal output (Not used in this set.)
82	$\overline{\text{CKSTP}}$	I	PLL clock output control signal input from system control (IC500).
83	AVDP	—	PLL system power supply pin (+3.3 V)
84	VSS4	—	Digital ground
85 – 94	TD14 – 23	I	Test pin (Normally, fixed at “L”.)
95	VDD4	—	Digital power supply pin (+3.3 V)
96	AVSD	—	Ground (for D-RAM)
97	SCLI	I	Not used. (Normally, fixed at “L”.)
98	BIM	I	Not used. (Normally, fixed at “L”.)
99	SDRAM	I	Not used. (Normally, fixed at “L”.)
100	AVDD	—	Power supply pin (+3.3 V) (for D-RAM)

• IC701 HD6432355A08F (DISPLAY CONTROL) (MAIN BOARD)

Pin No.	Pin Name	I/O	Pin Description
1, 2	PG3, 4	O	Not used. (Open)
3	VSS	—	Ground
4	NC	—	Not used. (Open)
5	VCC	—	Power supply pin (+5 V)
6 – 9	PC0 – 3	O	Not used. (Open)
10	VSS	—	Ground
11 – 14	PC4 – 7	O	Not used. (Open)
15 – 18	PB0 – 3	O	Not used. (Open)
19	VSS	—	Ground
20 – 23	PB4 – 7	O	Not used. (Open)
24 – 27	PA0 – 3	O	Not used. (Open)
28	VSS	—	Ground
29	PA4/IRQ4	O	Not used. (Open)
30	PA5/IRQ5	O	Not used. (Open)
31	PA6/IRQ6	O	Not used. (Open)
32	PA7/IRQ7	O	Not used. (Open)
33	SP-LAT	I	Digital signal processor spectrum analyzer data latch input
34	P66/IRQ2	O	Not used. (Open)
35, 36	VSS	—	Ground
37	P65/IRQ1	O	Not used. (Open)
38	$\overline{\text{BUS-ON}}$	I	SONY BUS ON input
39	VCC	—	Power supply pin (+5 V)
40	$\overline{\text{CD}}$/MD	I	CD/MD mechanism deck setting input (“L” : CD mechanism deck)
41 – 43	PE1 – 3	O	Not used. (Open)
44	VSS	—	Ground
45	TIR IND	O	TIR indicator LED drive output
46, 47	PE5, 6	O	Not used. (Open)
48	MD LOCK	I	MD lock signal input (“L” : unlock)
49	BU-IN	I	Back-up power supply detection input
50	LINK-OFF	O	LINK OFF output (Not used in this set.)
51	PD2	O	Not used. (Open)
52	ILL-ON	O	Illumination power supply control output
53	VSS	—	Ground
54	$\overline{\text{DOOR SW}}$	I	DOOR switch input (“L” : close, “H” : open)
55	NCO	—	Not used. (Open)
56	PD6	O	Not used. (Open)
57	$\overline{\text{BOOT}}$	I	FLASH write mode detection input
58	VCC	—	Power supply pin (+5 V)
59	NC	—	Not used. (Open)
60	TX/FL-SO/LCDDATA	O	LCD driver serial data/FLASH rewriting serial data output
61	SP-SI	I	Digital signal processor spectrum analyzer data input
62	RX	I	FLASH rewriting serial data input
63	SP-SCK	I	Digital signal processor spectrum analyzer data serial clock input
64	LCDCLK	O	LCD driver/serial clock output
65	VSS	—	Ground
66	$\overline{\text{LCDINH}}$	O	LCD driver inhibit control output
67, 68	VSS	—	Ground
69	LCDCE0	O	LCD chip enable output
70	$\overline{\text{LCDCE1}}$	O	LCD chip enable output
71	P63	O	Not used. (Open)
72 – 78	P27 – 21	O	Not used. (Open)
79	FL W	O	FLASH write control output

Pin No.	Pin Name	I/O	Pin Description
80	FWE (L)	I	FLASH write enable input
81	$\overline{\text{RES}}$	I	Reset input
82	NMI (H)	I	Non-maskable interruption input
83	$\overline{\text{STBY}}$ (H)	I	Hardware standby input
84	VCC	—	Power supply pin (+5 V)
85	XTAL	I	Main clock crystal input (18.432 MHz)
86	EXTAL	O	Main clock crystal output (18.432 MHz)
87	VSS	—	Ground
88	PF7	O	Not used. (Open)
89	VCC	—	Power supply pin (+5 V)
90 – 96	PF6 – 0	O	Not used. (Open)
97	UNI-SO	O	SONY BUS serial data output
98	UNI-SI	I	SONY BUS serial data input
99, 100	VSS	—	Ground
101	UNI-SCK	I	SONY BUS serial clock input
102	P53/ADTRG	O	Not used. (Open)
103	AVCC	—	A/D, D/A power supply pin (+5 V)
104	VREF	—	A/D, D/A reference voltage input (+5 V)
105	P40/AN0	I	Not used. (Connect to ground.)
106	P41/AN1	I	Not used. (Connect to ground.)
107	P42/AN2	I	Not used. (Connect to ground.)
108	P43/AN3	I	Not used. (Connect to ground.)
109	P44/AN4	I	Not used. (Connect to ground.)
110	P45/AN5	I	Not used. (Connect to ground.)
111	P46/AN6/DA0	I	Not used. (Connect to ground.)
112	P47/AN7/DA1	I	Not used. (Connect to ground.)
113	AVSS	—	A/D, D/A ground
114	VSS	—	Ground
115 – 122	P17 – 10	O	Not used. (Open)
123	MD0 (H)	I	Operation mode setting input (Fixed at “H”.)
124	MD1 (H)	I	Operation mode setting input (Fixed at “H”.)
125	MD2 (H)	I	Operation mode setting input (Fixed at “H”.)
126 – 128	PG0 – 2	O	Not used. (Open)

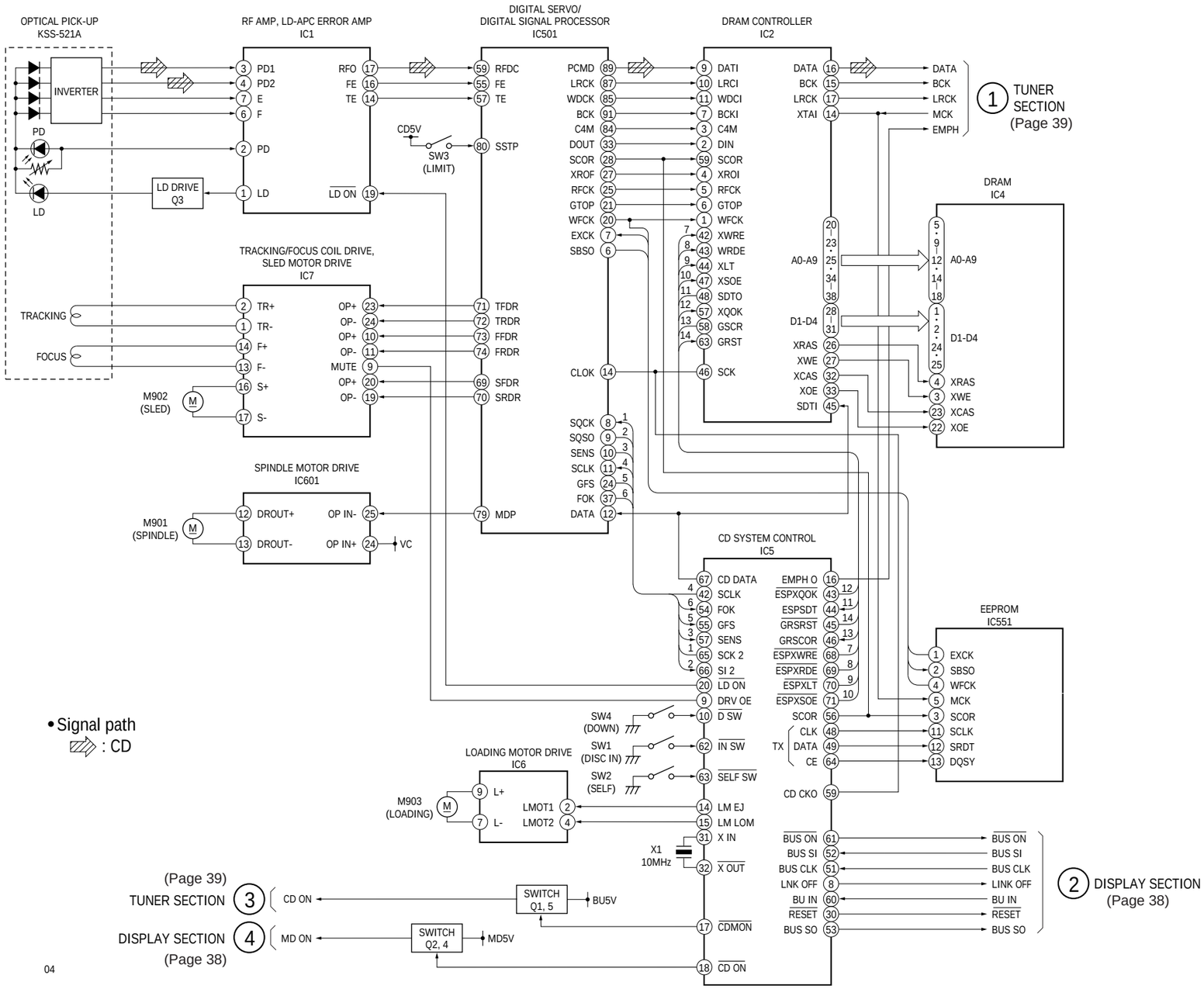
• IC500 MB90574APMT-G-215-BND (SYSTEM CONTROL) (MAIN BOARD)

Pin No.	Pin Name	I/O	Pin Description
1, 2	RE IN0, 1	I	Rotary encoder input
3	TIR BUSY	I	TIR reception audio recording IC operation mode input (“H” : BUSY)
4	$\overline{\text{TIR PDOWN}}$	O	TIR reception audio recording/playback IC operation mode setting output
5	TIR RST	O	TIR reception audio recording IC reset output
6	$\overline{\text{SYS RST}}$	O	Reset output for SONY BUS slave micon.
7	$\overline{\text{BUS ON}}$	O	SONY BUS ON output
8	VCC	—	Power supply pin (+5 V)
9	$\overline{\text{DSPSTP}}$	O	Digital signal processor master clock control output
10	$\overline{\text{TIR PLAY}}$	O	AM reception/TIR playback select output (“L” : TIR playback)
11	$\overline{\text{CSV PLAY}}$	O	Voice guide sound/Digital signal processor sound select output
12	RX/FLS SI	I	FLASH write communication input
13	TX/FLS SO	O	FLASH write communication output
14	$\overline{\text{FLS WR}}$	I	FLASH write mode select input
15	BEEP	O	Beep output
16	CSV ON	O	CSV control IC power supply control output
17	DSP SI	I	Serial data input from digital signal processor.
18	DSP SO	O	Serial data output to digital signal processor.
19	DSP CK	O	Serial data shift clock output to digital signal processor.
20	UNI SI	I	SONY BUS serial data input
21	UNI SO	O	SONY BUS serial data output
22	UNI CK	O	SONY BUS serial clock output
23	SD IN	I	Tuner reception signal detection input
24	SIRCS	I	Wireless remote commander signal input
25	CSV SI	I	CSV control IC serial data input
26	CSV SO	O	CSV control IC serial data output
27	CSV CK	O	CSV control IC serial clock output
28	$\overline{\text{DSP RST}}$	O	Digital signal processor reset output
29	ST/MONO	I/O	Used in conjunction with stereo input/forced monaural output.
30	$\overline{\text{DSP XMST}}$	O	Digital signal processor master mode/slave mode select output
31	WIDE	O	WIDE/NARROW select output
32	NARROW	O	WIDE/NARROW select output
33	VSS	—	Ground
34	C	—	Stabilized capacitor connection pin
35	RAM BU	I	RAM backup voltage detection input (Not used in this set.)
36	MUTE	O	Mute control output of audio output.
37	ASEL0	O	Digital signal processor analog input source select output
38	DVCC	—	D/A power supply pin (+5 V)
39	DVSS	—	D/A ground
40	ASEL1	O	Digital signal processor analog input source select output
41	LCD ANG	O	LCD contrast alignment output
42	AVCC	—	D/A, A/D power supply pin (+5 V)
43	AVRH	—	A/D reference voltage input (+5 V)
44	AVRL	—	A/D reference voltage input (0 V)
45	AVSS	—	D/A, A/D ground
46	VSM	I	Tuner S-Meter voltage input
47, 48	KEY IN0, 1	I	Front panel key input
49	RC IN0	I	Rotary commander key input
50	DST SEL0	I	Destination select input
51	DST SEL1	I	Destination select input
52	QUALITY	I	Tuner quality voltage input
53	MPT	I	Tuner multi pass voltage input
54	VCC	—	Power supply pin (+5 V)

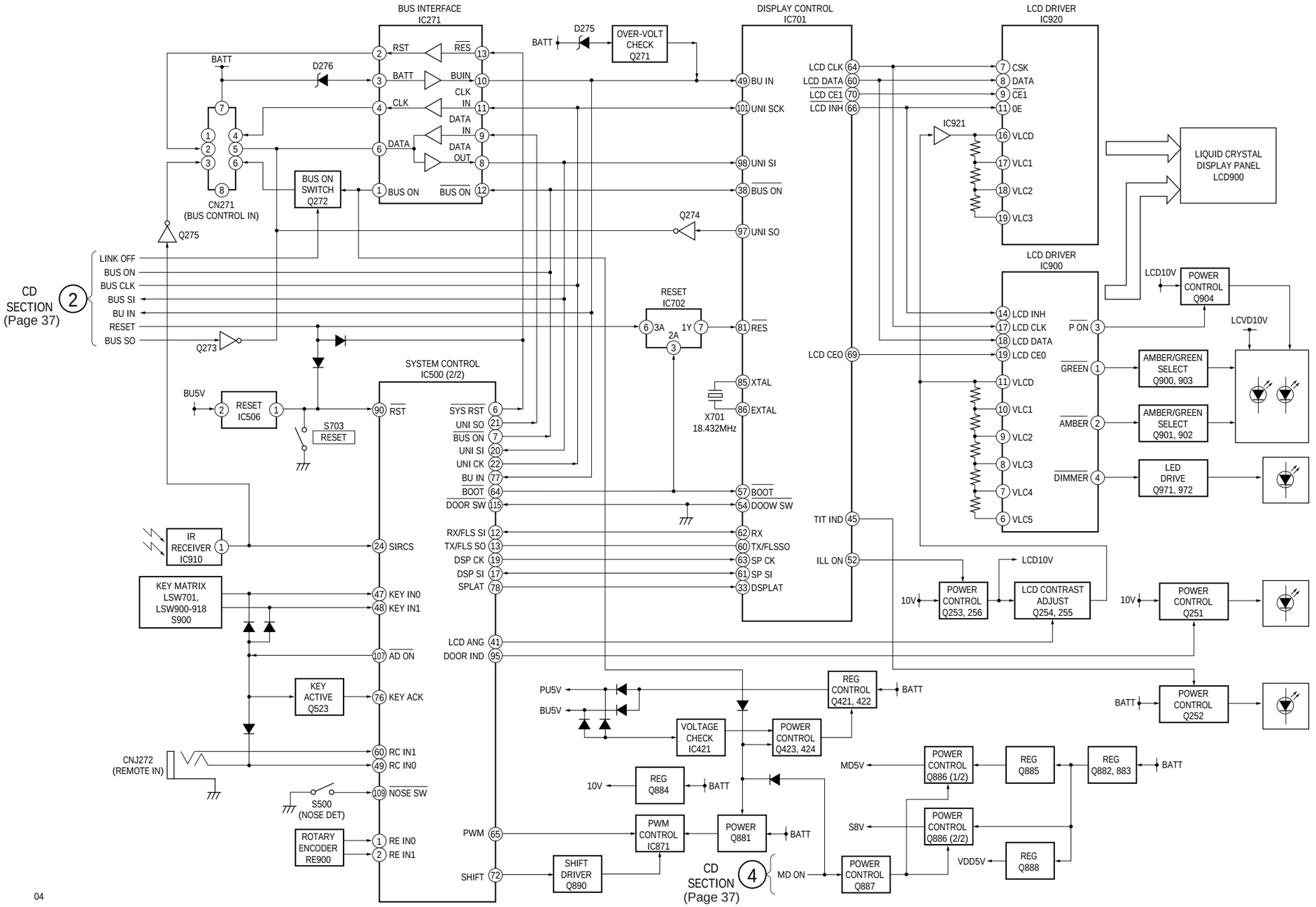
Pin No.	Pin Name	I/O	Pin Description
55	$\overline{\text{VOL LOAD}}$	O	Electronic volume IC data latch output
56	VOL DATA L	O	Electronic volume L-ch setting data output
57	VOL DATA R	O	Electronic volume R-ch setting data output
58	VOL CLK	O	Electronic volume setting clock output
59	$\overline{\text{DSP XLAT}}$	O	Data latch output to digital signal processor.
60	RC IN1	I	Rotary commander shift switch input
61	$\overline{\text{ACC IN}}$	I	Accessory signal input
62	POW ON	O	System power ON/OFF control output
63	VSS	—	Ground
64	$\overline{\text{BOOT}}$	O	Low output at display micon rewriting.
65	PWM	I	PWM control input
66	NCO	—	Not used. (Open)
67	RDS DAVN	I	RDS IC data reception mode read input
68	$\overline{\text{CD}}$/MD	I	CD/MD mechanism deck setting input (“L” : CD mechanism deck)
69	CD/MD ON	I	CD/MD servo B+ detection input
70	I2C SDA	I/O	For communication with device connected to I^2C-bus.
71	I2C SCL	I/O	For communication with device connected to I^2C-bus.
72	SHIFT	O	Shift signal output
73	X1A	O	Low speed frequency output (32.768 kHz)
74	X0A	I	Low speed frequency input (32.768 kHz)
75	NCO	—	Not used. (Open)
76	KEY ACK	I	Key input detection at micon sleeping.
77	BU IN	I	Back-up power supply detection input
78	SP LAT	O	Spectrum analyzer data latch output
79	DSP REDY	I	Ready signal input from digital signal processor.
80	$\overline{\text{TEST}}$	I	Test input
81	EMPH	I	Emphasis signal input at MD/CD play. (“H” : emphasis ON)
82	$\overline{\text{WAKE UP}}$	O	DC/DC converter power supply ON/OFF control output (Not used in this set.)
83	TEL MUTE	I	Audio signal muting input (“L” : mute ON)
84	TU ON	O	Tuner power supply ON/OFF output
85	$\overline{\text{ILL IN}}$	I	Illumination signal input
86	$\overline{\text{HSTX}}$	I	Hardware standby input
87	MD2	I	Operation mode designation input (Fixed at “L” in this set.)
88, 89	MD1, 0	I	Operation mode designation input (Fixed at “H” in this set.)
90	$\overline{\text{RST}}$	I	Reset input
91	VSS	—	Ground
92	X0	I	High speed frequency input (3.58 MHz)
93	X1	O	High speed frequency output (3.58 MHz)
94	VCC	—	Power supply pin (+5 V)
95	DOOR IND	O	Front panel door indicator output
96	DSP ON	O	Digital signal processor power control output
97	NCO	—	Not used. (Open)
98	AMP-STBY	O	Power amplifier standby signal output
99 – 102	TIR D0 – 3	I/O	Parallel translation data line input from/output to TIR reception audio record/ playback IC.
103	$\overline{\text{TIR RD}}$	O	Read pulse output to TIR reception audio recording/playback IC.
104	$\overline{\text{TIR WR}}$	O	Write pulse output to TIR reception audio recording/playback IC.
105	TIR CE1	O	Chip enable output to TIR reception audio recording/playback IC.
106	TIR CE0	O	Chip enable output to TIR reception audio recording/playback IC.
107	$\overline{\text{AD ON}}$	O	Power control output to keys.
108	NCO	—	Not used. (Open)
109	$\overline{\text{NOSE SW}}$	I	Front panel attachment detection input
110	CSV REQ	I	Data transfer request input from CSV control IC.

Pin No.	Pin Name	I/O	Pin Description
111	CSV CE	O	Chip enable output to CSV control IC.
112	$\overline{\text{CSV RST}}$	O	CSV control IC initial reset output
113	NCO	—	Not used. (Open)
114	FM ON	O	Power control output at FM reception.
115	$\overline{\text{DOOR SW}}$	I	Door switch input
116	NS MASK	O	Mask control output of quality input at tuner reception.
117	$\overline{\text{SEEK}}$	O	Seek control output at tuner reception.
118	AF MUTE	O	Muting output of tuner audio output.
119	VSS	—	Ground
120	SSTOP	I	IF count result input of PLL IC.

4-2. BLOCK DIAGRAM — CD SECTION —

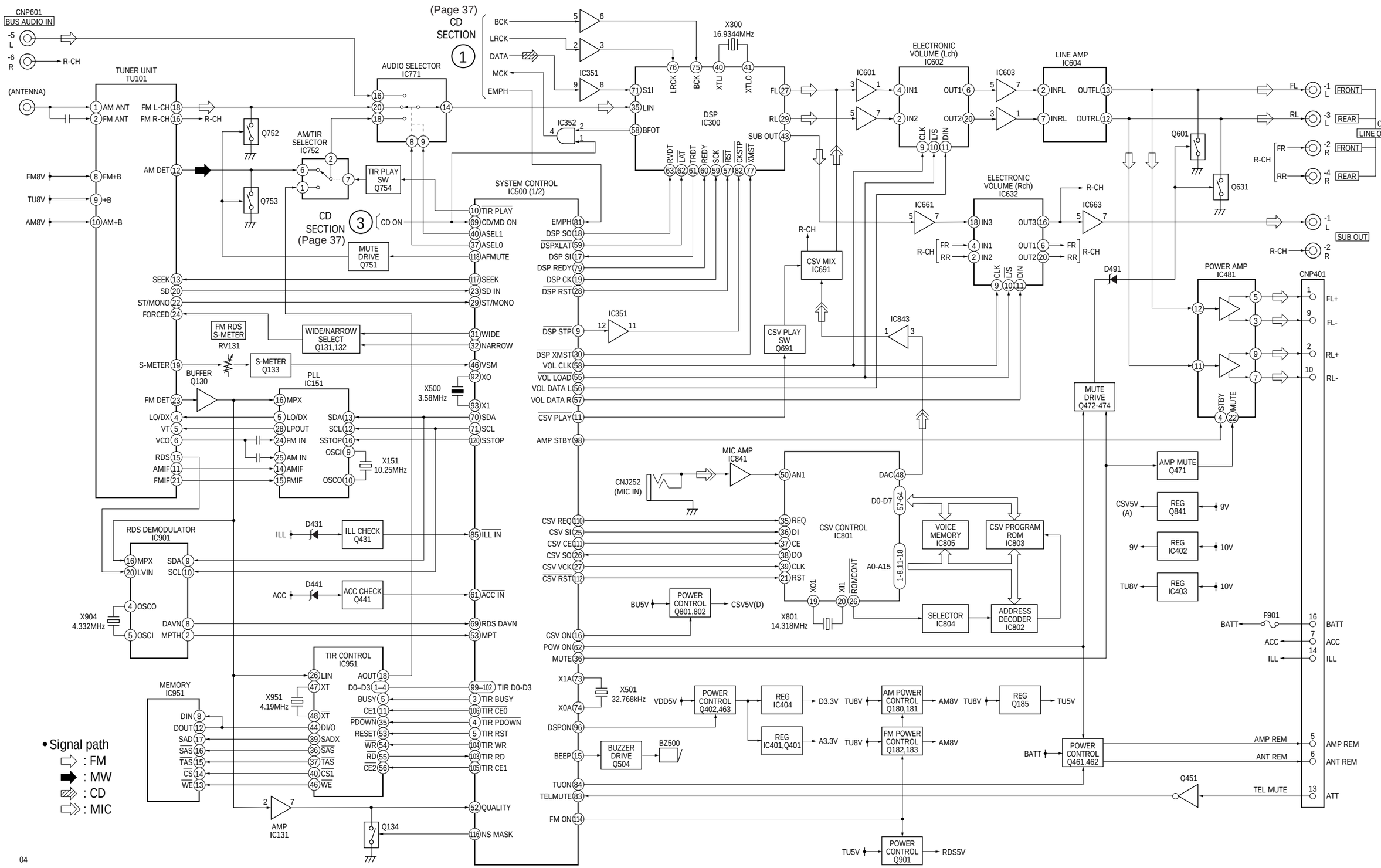


4-3. BLOCK DIAGRAM — DISPLAY SECTION —

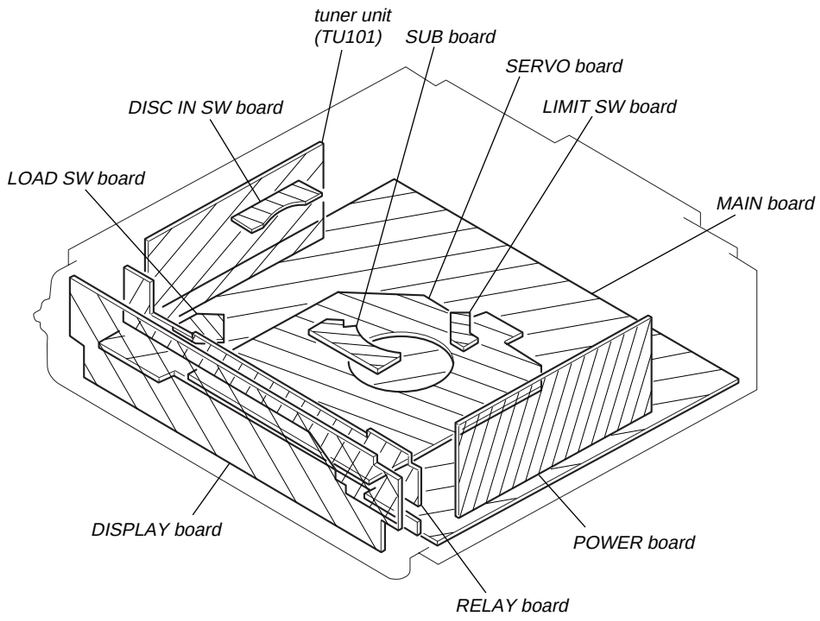


04

4-4. BLOCK DIAGRAM — TUNER SECTION —



4-5. CIRCUIT BOARDS LOCATION



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : MW
  ⇨ : CD
  ⇨ : MIC
- Abbreviation
  TYPE A : ENGLISH, FRENCH
  TYPE B : ENGLISH, SPANISH
  TYPE C : ENGLISH, GERMAN

For printed wiring boards

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- △ : internal component.
- ▒▒ : Pattern from the side which enables seeing.
  (The other layer's patterns are not indicated.)

Caution:
Pattern face side: (Side B) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A) Parts on the parts face side seen from the parts face are indicated.

• Waveforms (MODE:PLAY)

① 0V
Approx. 200mVp-p
IC1 ⑭ (TE)

② 0V
Approx. 620mVp-p
IC1 ⑯ (FE)

③ 1.2Vp-p
IC1 ⑰ (RFO)

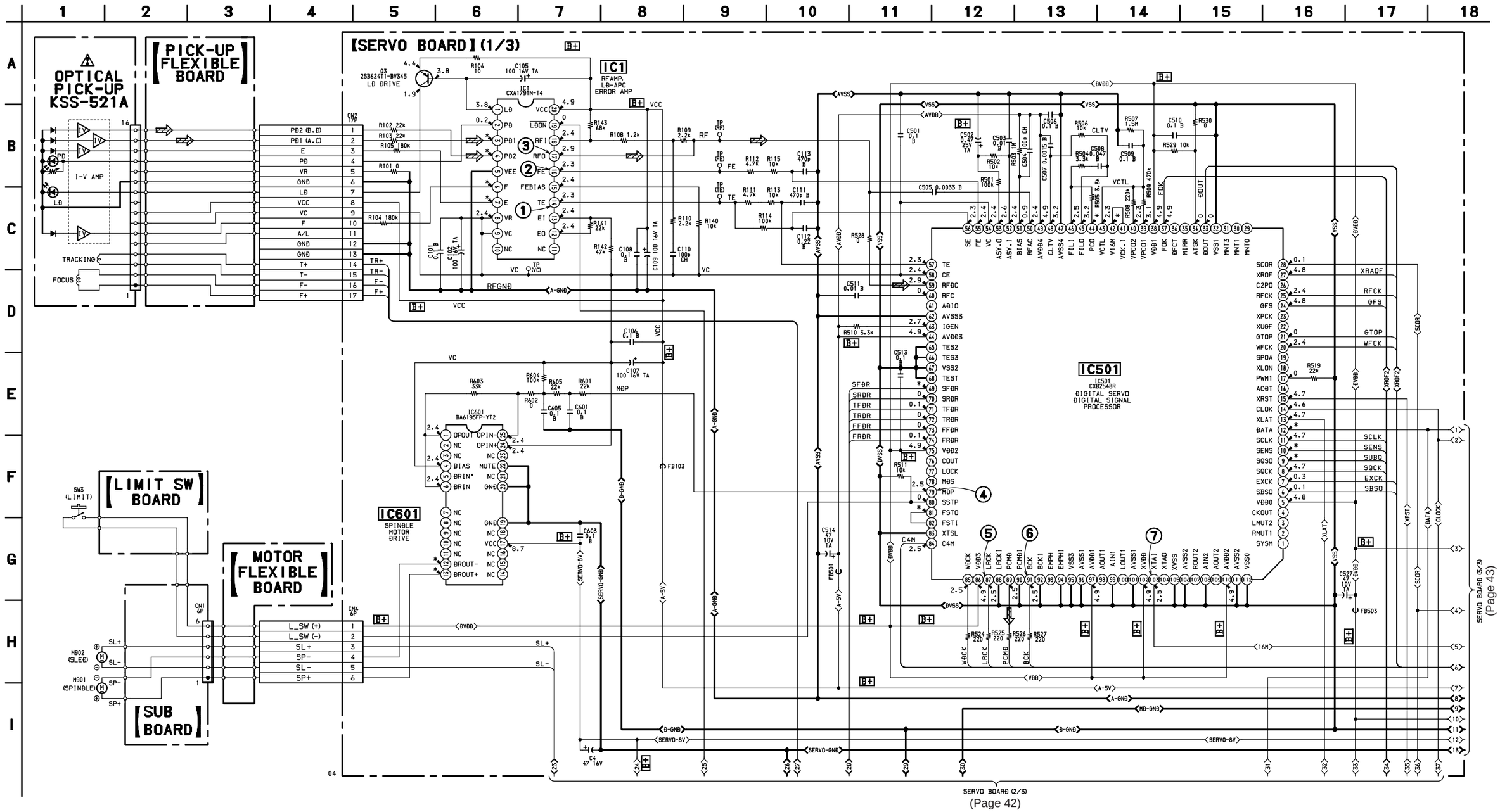
④ 2.6Vp-p
7.6µsec
IC501 ⑲ (MDP)

⑤ 5.8Vp-p
22.7µsec
IC501 ⑰ (LRCK)

⑥ 5.7Vp-p
474nsec
IC501 ⑨① (BCK)

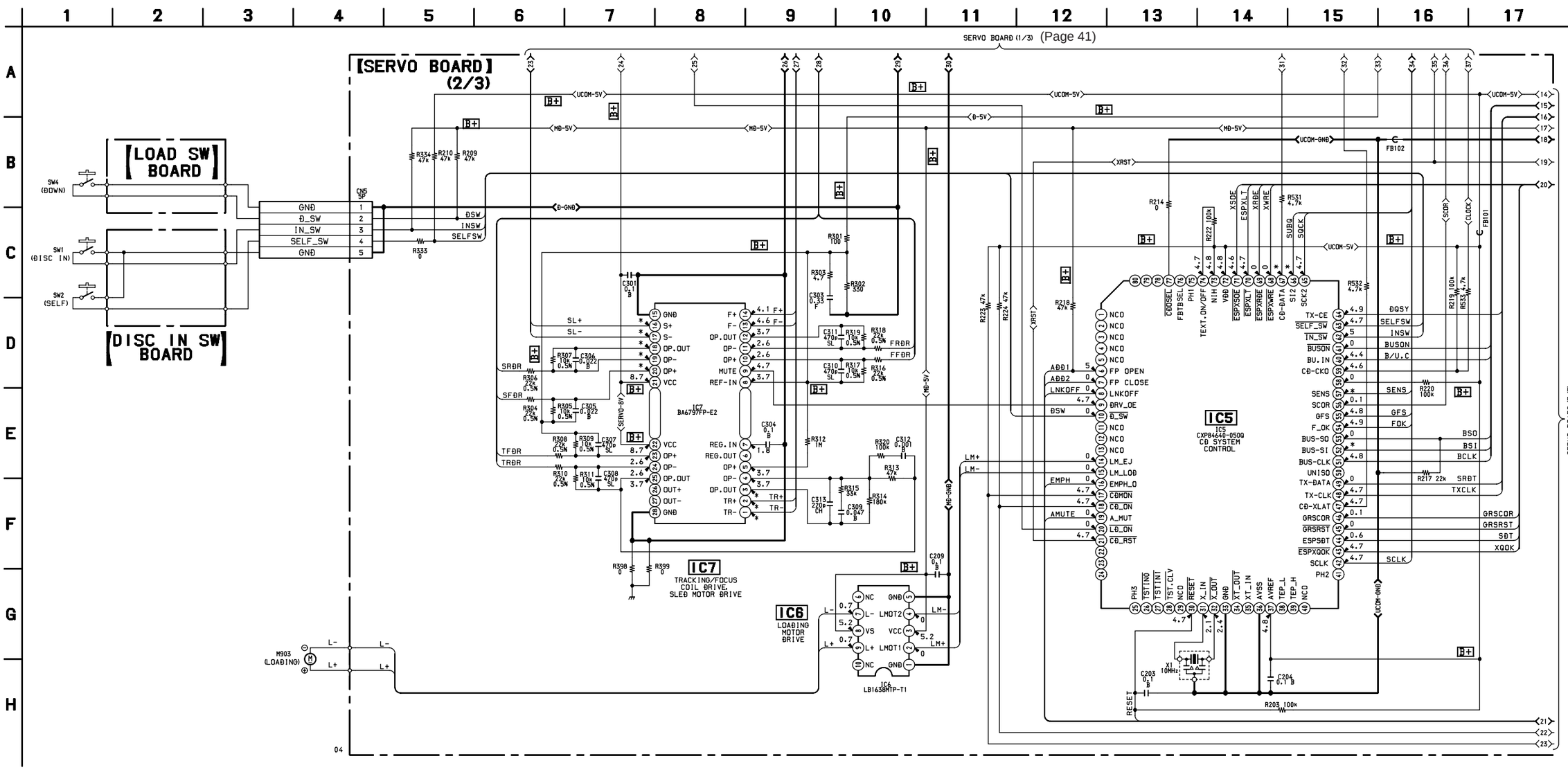
⑦ 3.2Vp-p
16.89MHz
IC501 ⑩③ (XTAI)

4-6. SCHEMATIC DIAGRAM — CD MECHANISM SECTION (1/3) — • Refer to page 59 for IC Block Diagrams.



Note:
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  ∗ : Impossible to measure

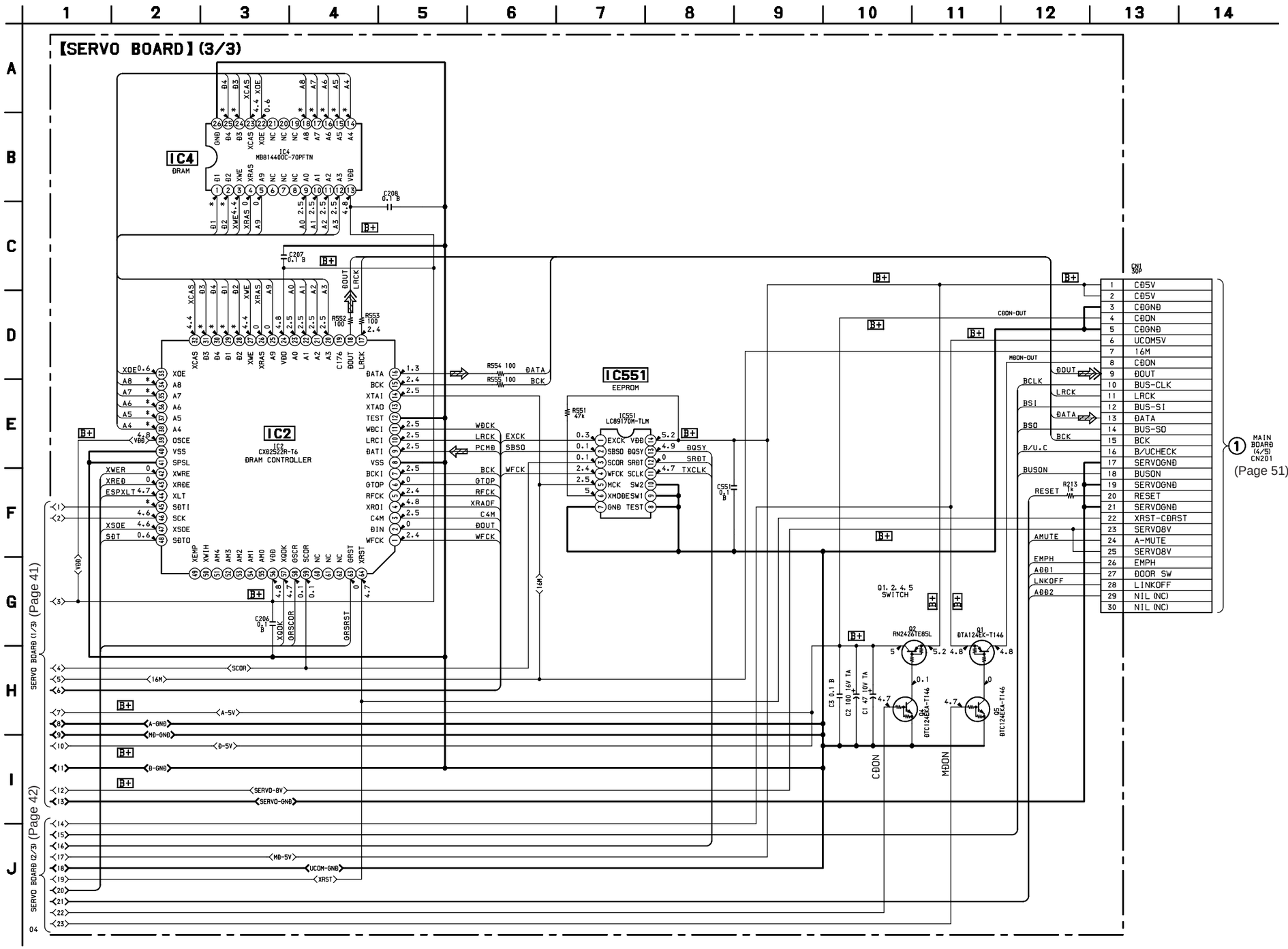
4-7. SCHEMATIC DIAGRAM — CD MECHANISM SECTION (2/3) — • Refer to page 59 for IC Block Diagrams.



Note:

- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  * : Impossible to measure

4-8. SCHEMATIC DIAGRAM — CD MECHANISM SECTION (3/3) — • Refer to page 60 for IC Block Diagrams.



Note:

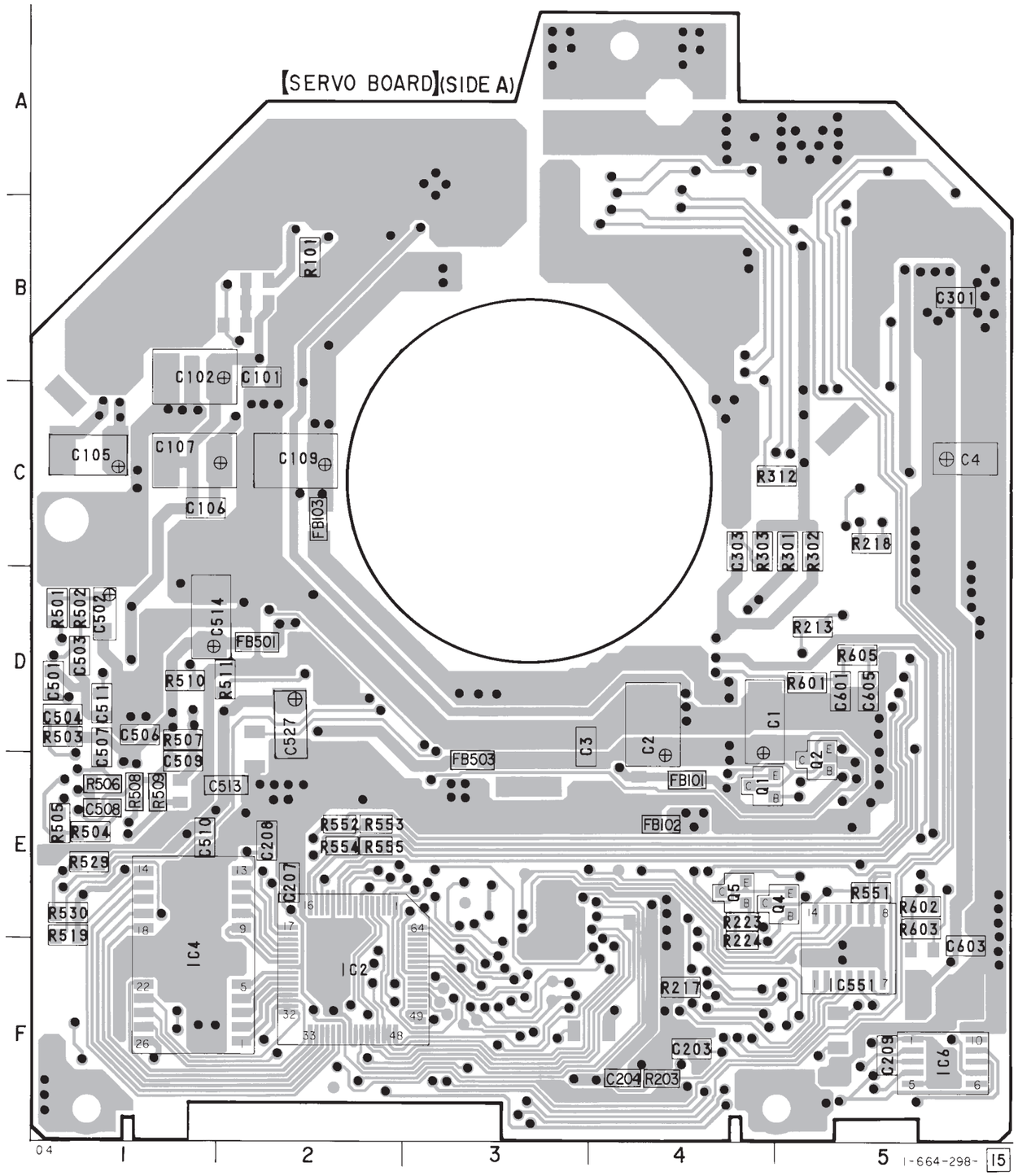
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  ∗ : Impossible to measure

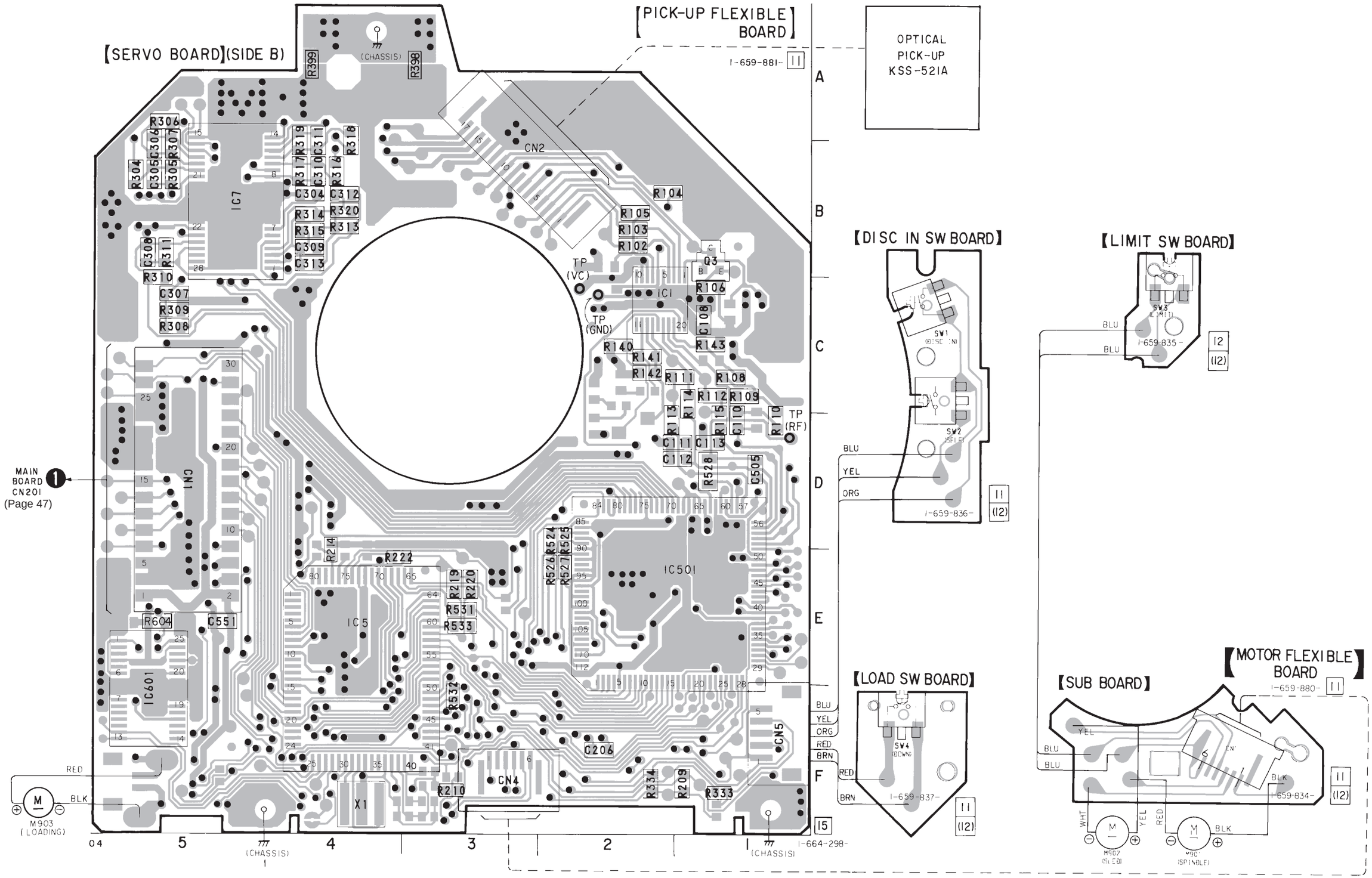
4-9. PRINTED WIRING BOARDS — CD MECHANISM SECTION —

• **Semiconductor Location**

Ref. No.	Location
(IC1)	C-2
IC2	F-2
IC4	F-1
(IC5)	E-4
IC6	F-5
(IC7)	B-5
(IC501)	E-2
IC551	F-5
(IC601)	F-5
Q1	E-4
Q2	E-5
(Q3)	B-1
Q4	E-5
Q5	E-4

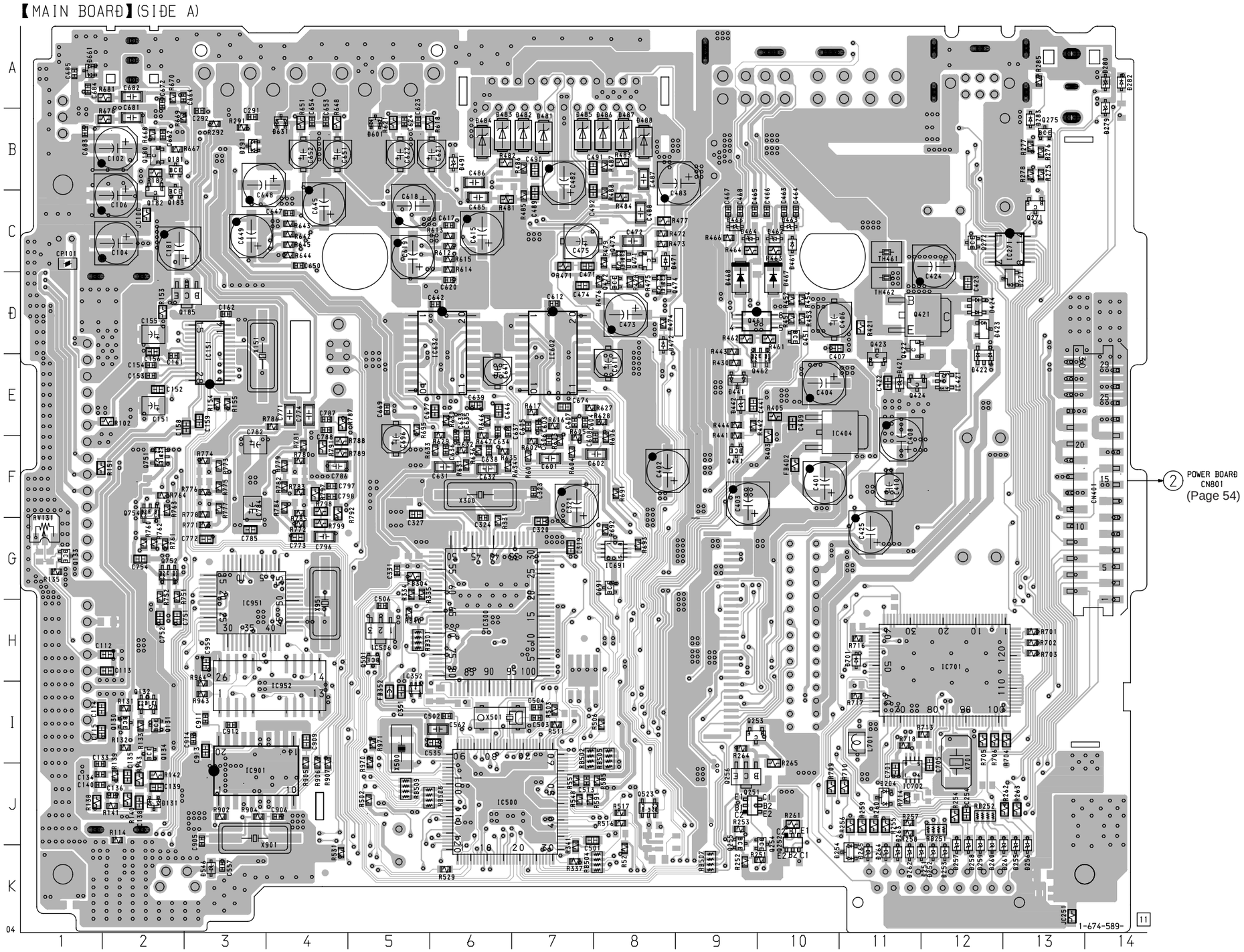
( ) : SIDE B




【SERVO BOARD】(SIDE B)
【PICK-UP FLEXIBLE BOARD】
1-659-881- 11
OPTICAL PICK-UP KSS-521A
【DISC IN SW BOARD】
【LIMIT SW BOARD】
【LOAD SW BOARD】
【SUB BOARD】
【MOTOR FLEXIBLE BOARD】
1-659-880- 11
MAIN BOARD CN201 (Page 47)
M903 (LOADING)
(CHASSIS)
1-664-298-
1-659-836-
1-659-835-
1-659-837-
1-659-834-
IC7
IC1
IC5
IC501
IC601
CN1
CN2
CN4
CN5
X1
Q3
SW1 (DISC IN)
SW2 (SFIS)
SW3 (LIMIT)
SW4 (LOAD)
M902 (SLED)
M901 (SPINDLE)
TP (VC)
TP (GND)
TP (RF)
R399
R398
R306
R307
R305
R304
R319
R317
R318
R316
R314
R315
R320
R313
R312
R311
R310
R309
R308
C306
C305
C304
C311
C310
C312
C313
C307
R104
R105
R103
R102
R106
C108
R140
R141
R142
R143
R111
R108
R112
R109
R114
R113
R115
C110
C111
C112
C113
R110
R528
C505
R214
R222
R219
R220
R531
R533
R524
R526
R527
R525
R532
R334
R209
R333
R210
C206
R604
C551
BLU
YEL
ORG
RED
BRN
BLK
WHT
(12)
(I2)

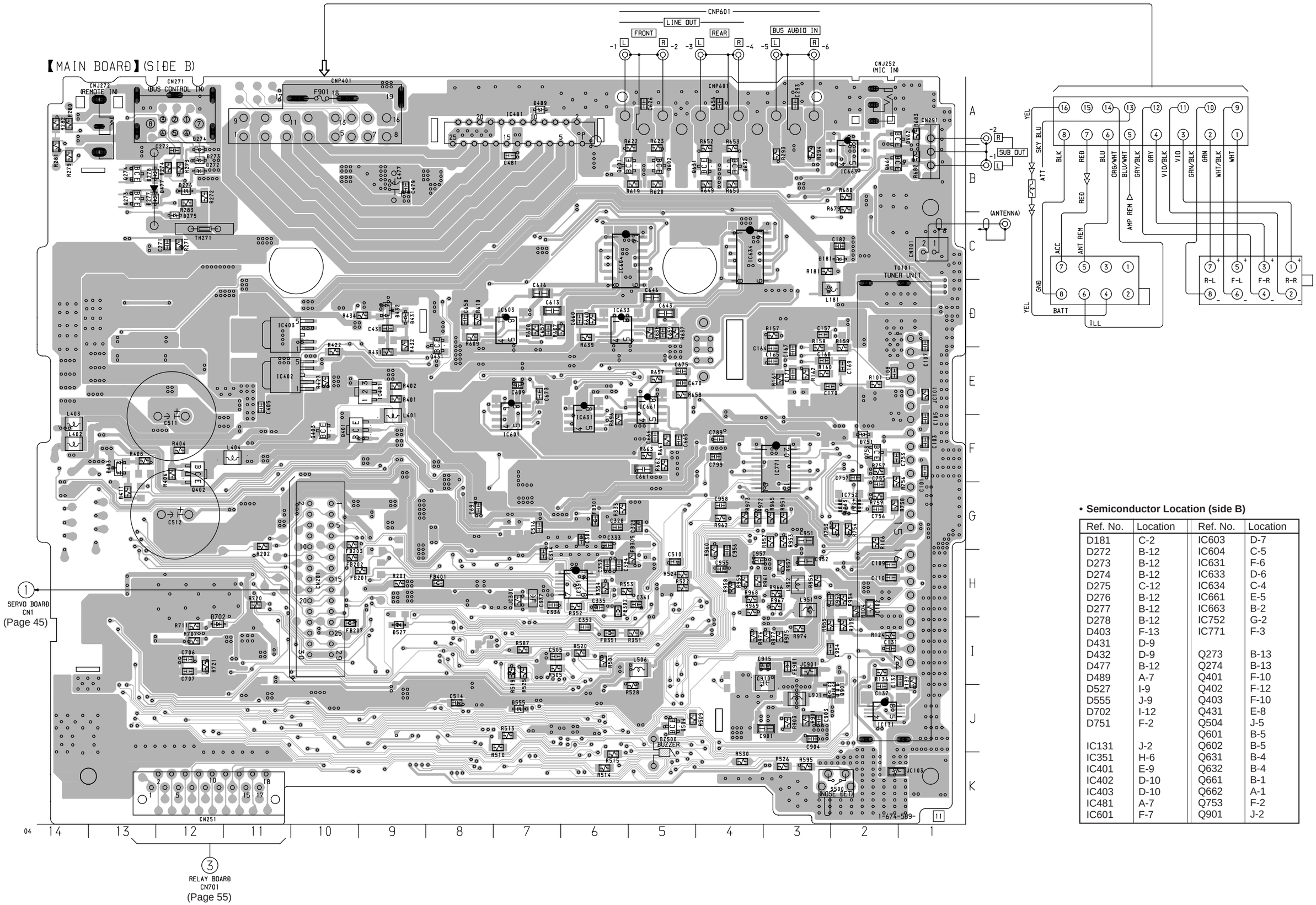
4-10. PRINTED WIRING BOARD — MAIN SECTION —

【MAIN BOARD】(SIDE A)



• **Semiconductor Location (side A)**

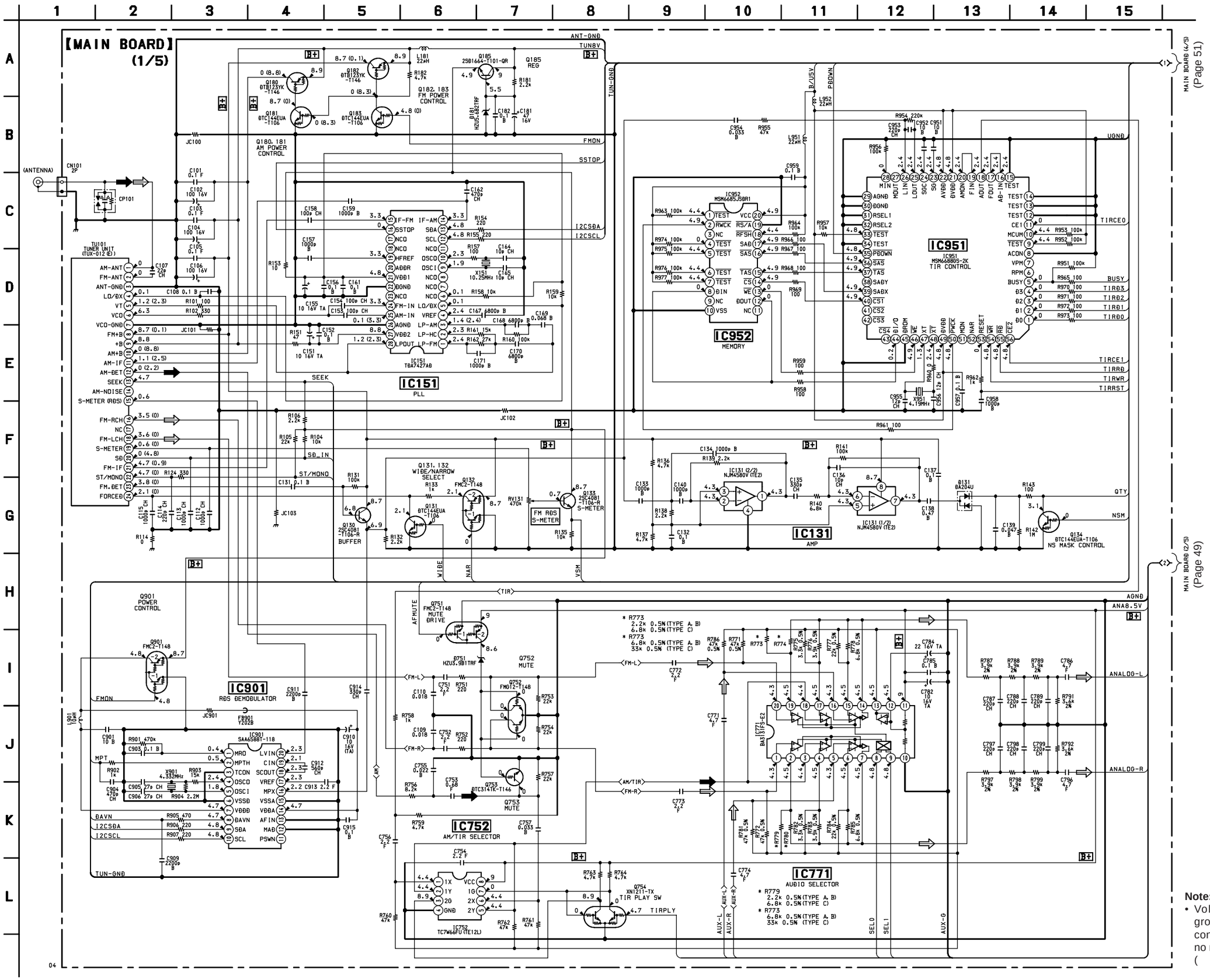
Ref. No.	Location	Ref. No.	Location
D131	J-2	IC271	C-13
D204	J-11	IC300	H-6
D251	K-12	IC352	I-5
D252	K-12	IC404	E-11
D253	K-12	IC421	E-12
D254	K-11	IC500	J-6
D255	J-13	IC506	H-5
D256	J-13	IC602	D-7
D257	J-12	IC632	D-6
D258	J-12	IC691	G-8
D259	J-12	IC701	H-12
D260	J-12	IC702	J-11
D261	J-13	IC901	J-3
D262	K-11	IC951	H-3
D263	K-11	IC952	I-3
D264	K-11		
D265	K-11	Q130	I-2
D271	D-13	Q131	I-2
D279	B-14	Q132	I-2
D280	A-14	Q133	G-1
D282	A-14	Q134	I-2
D283	B-13	Q180	B-2
D291	B-3	Q181	B-2
D421	D-11	Q182	C-2
D422	E-12	Q183	C-2
D423	D-12	Q185	D-3
D424	D-12	Q251	J-9
D441	E-9	Q252	K-10
D442	E-9	Q253	I-9
D461	C-10	Q254	K-11
D462	C-10	Q255	J-9
D463	C-10	Q256	J-9
D464	C-9	Q271	Q-13
D466	C-9	Q272	C-12
D467	D-10	Q275	B-13
D468	D-9	Q421	D-11
D471	C-8	Q422	D-11
D472	D-8	Q423	E-11
D481	B-7	Q424	E-11
D482	B-7	Q441	F-9
D483	B-6	Q451	D-10
D484	B-6	Q461	D-10
D485	B-7	Q462	E-10
D486	B-8	Q471	C-8
D487	B-8	Q472	D-8
D488	B-8	Q473	C-8
D491	B-6	Q474	D-8
D546	K-3	Q501	H-5
D601	B-5	Q523	J-8
D631	B-4	Q691	G-8
D661	A-1	Q751	F-2
D701	H-11	Q752	G-2
		Q754	F-2
IC151	D-3		



- **Semiconductor Location (side B)**

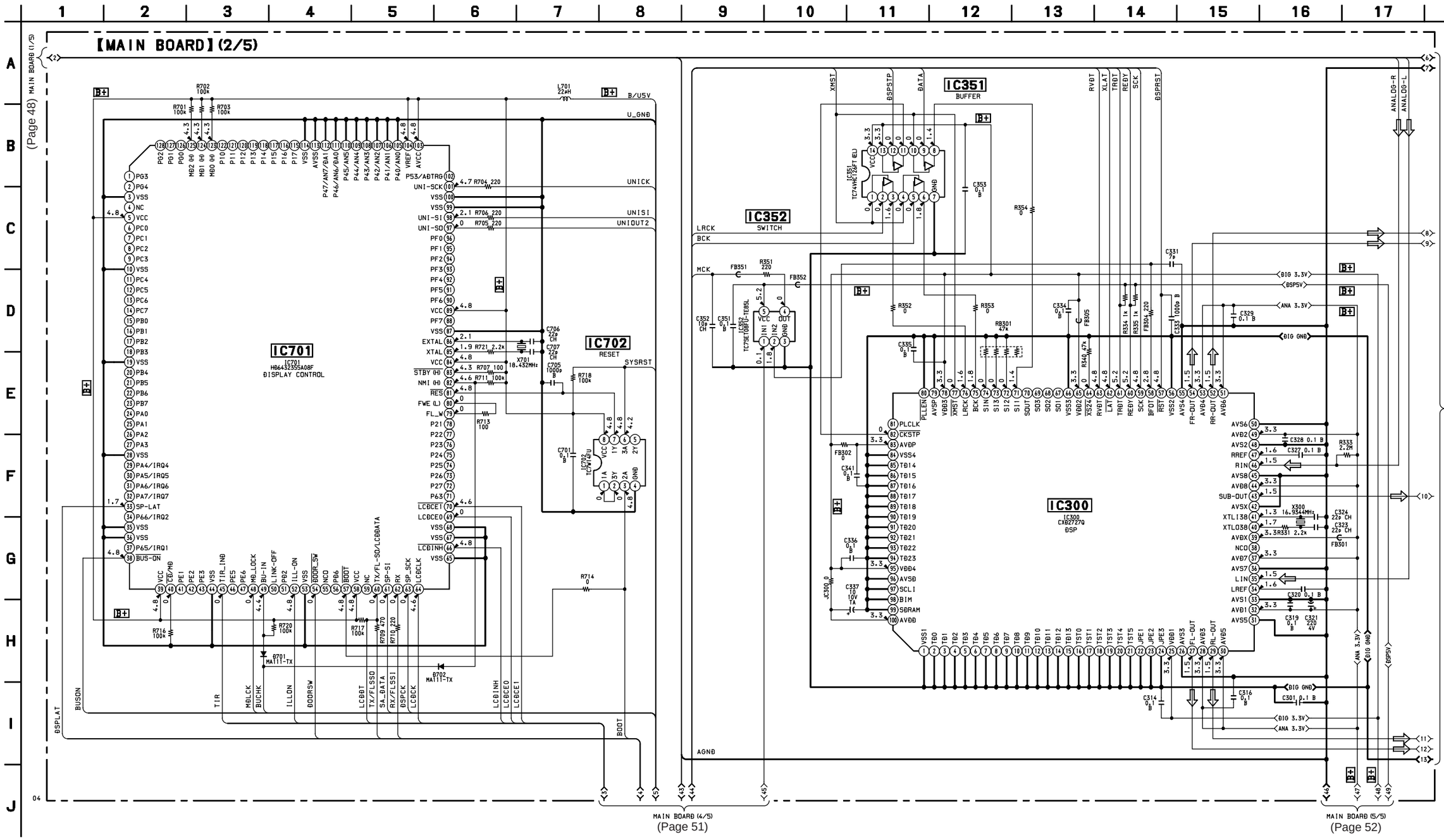
Ref. No.	Location	Ref. No.	Location
D181	C-2	IC603	D-7
D272	B-12	IC604	C-5
D273	B-12	IC631	F-6
D274	B-12	IC633	D-6
D275	C-12	IC634	C-4
D276	B-12	IC661	E-5
D277	B-12	IC663	B-2
D278	B-12	IC752	G-2
D403	F-13	IC771	F-3
D431	D-9		
D432	D-9	Q273	B-13
D477	B-12	Q274	B-13
D489	A-7	Q401	F-10
D527	I-9	Q402	F-12
D555	J-9	Q403	F-10
D702	I-12	Q431	E-8
D751	F-2	Q504	J-5
		Q601	B-5
IC131	J-2	Q602	B-5
IC351	H-6	Q631	B-4
IC401	E-9	Q632	B-4
IC402	D-10	Q661	B-1
IC403	D-10	Q662	A-1
IC481	A-7	Q753	F-2
IC601	F-7	Q901	J-2

4-11. SCHEMATIC DIAGRAM — MAIN SECTION (1/5) — • Refer to page 61 for IC Block Diagrams.



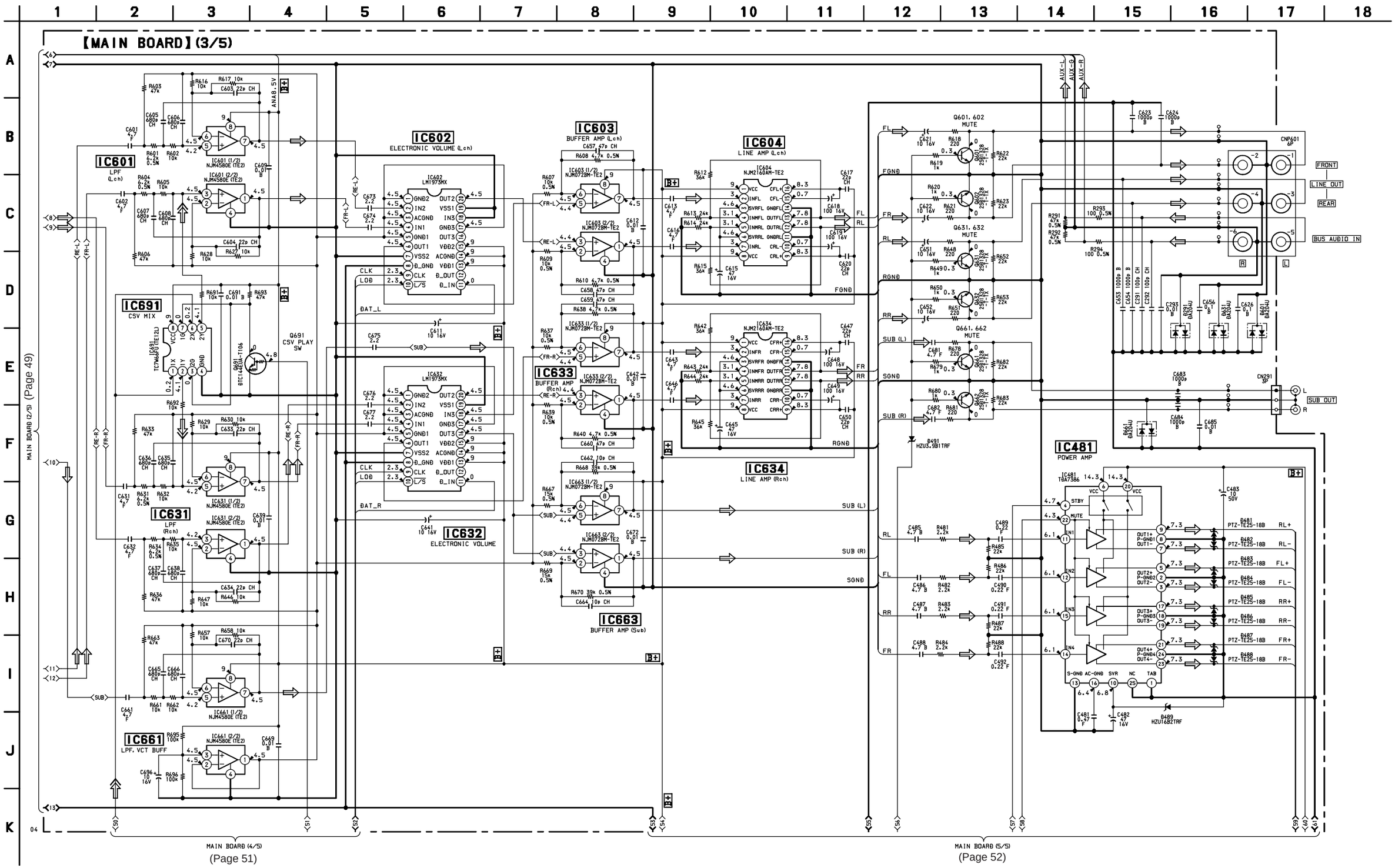
Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : MW

4-12. SCHEMATIC DIAGRAM — MAIN SECTION (2/5) — • Refer to page 62 for IC Block Diagrams.



Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

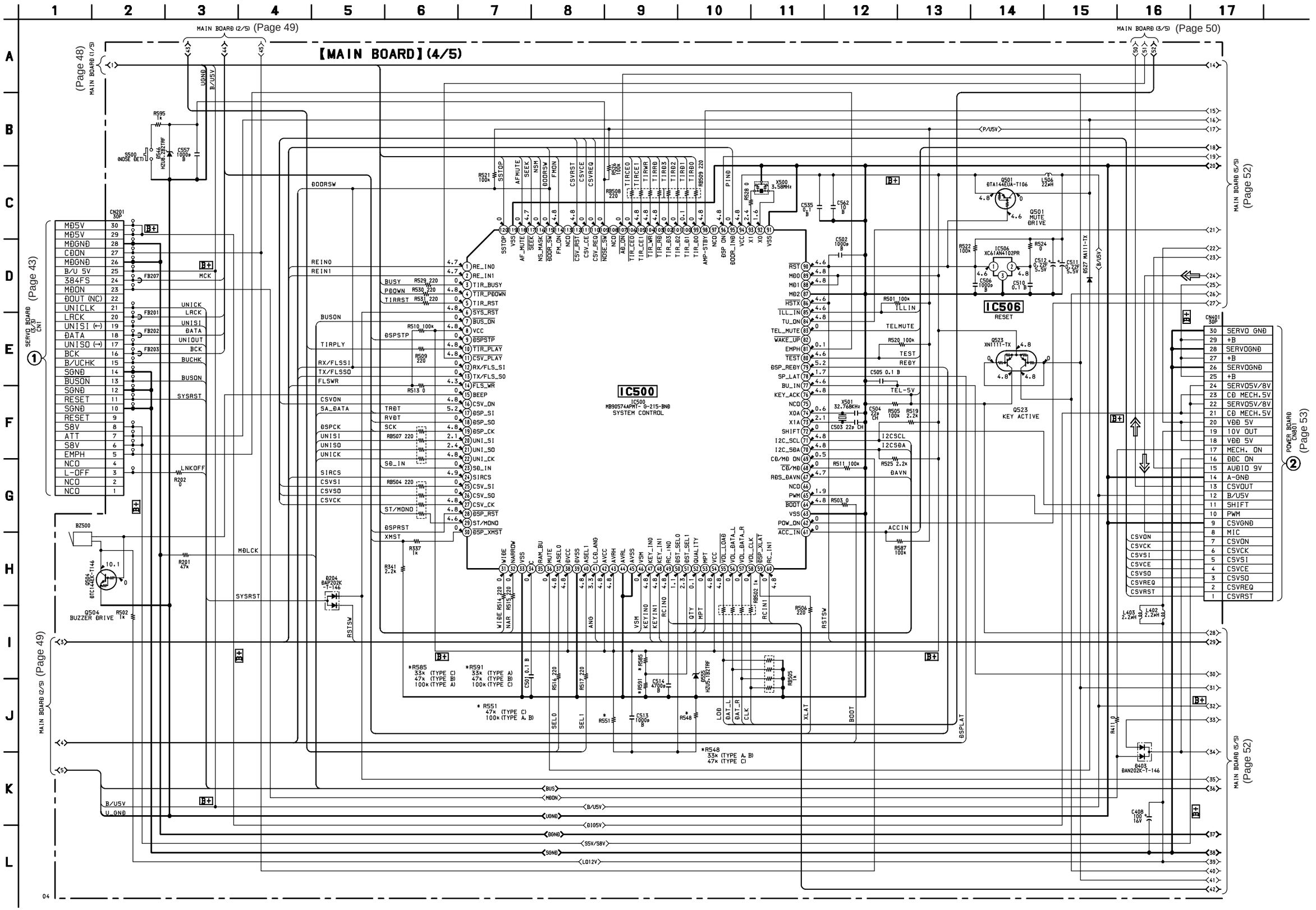
4-13. SCHEMATIC DIAGRAM — MAIN SECTION (3/5) — • Refer to page 63 for IC Block Diagrams.



Note:

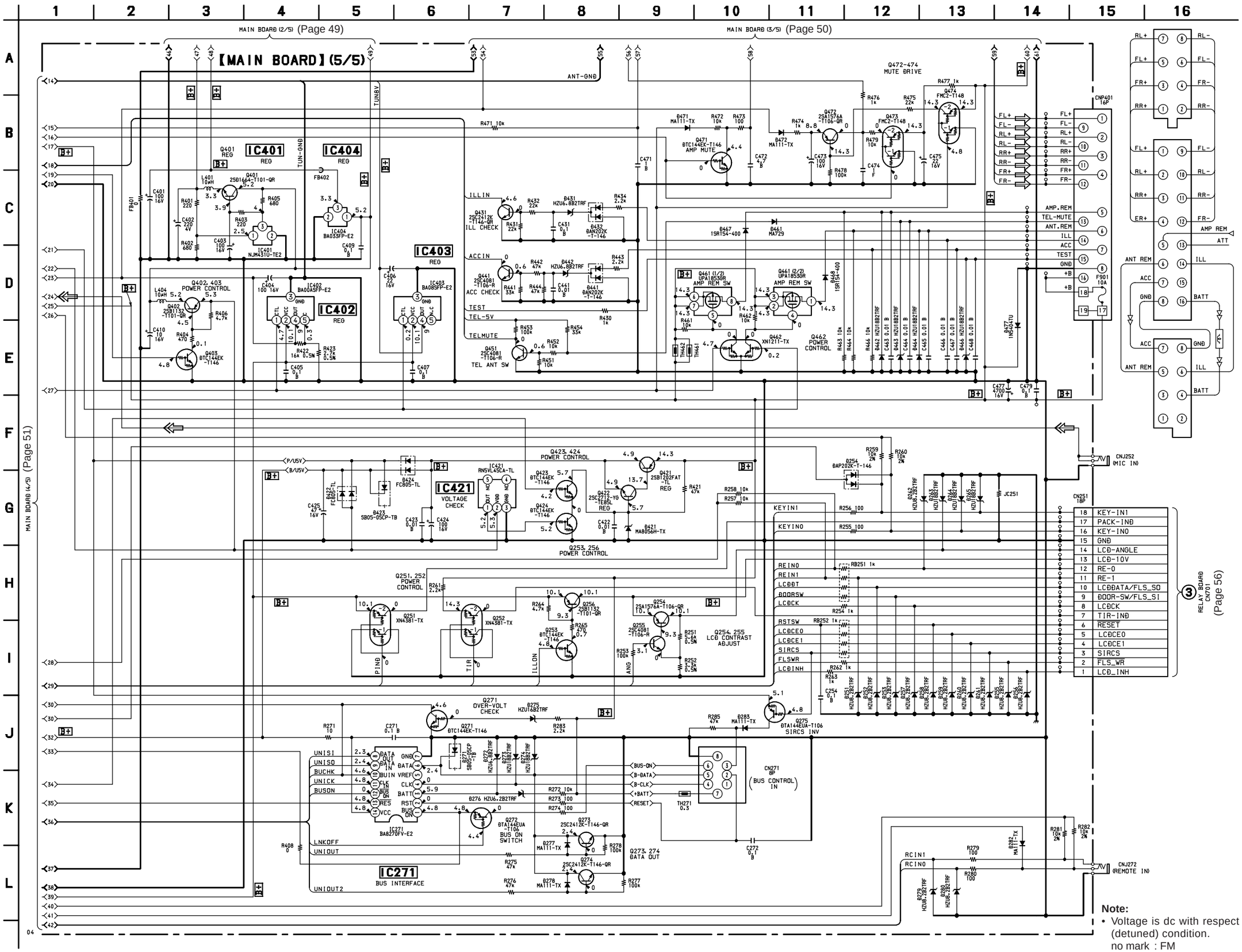
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

4-14. SCHEMATIC DIAGRAM — MAIN SECTION (4/5) — • Refer to page 63 for IC Block Diagrams.



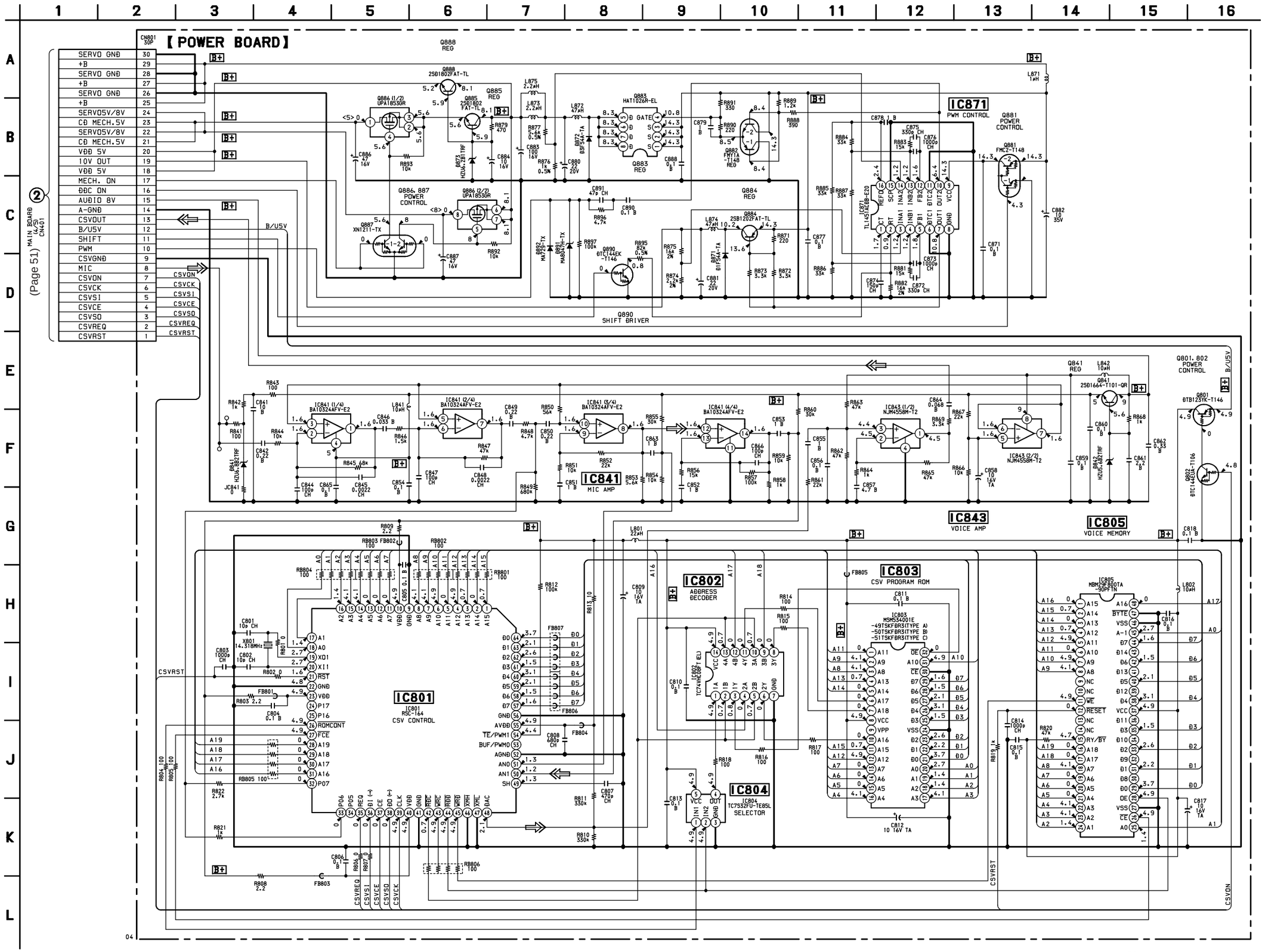
Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

4-15. SCHEMATIC DIAGRAM — MAIN SECTION (5/5) — • Refer to page 62 for IC Block Diagrams.



Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

4-16. SCHEMATIC DIAGRAM — POWER SECTION — • Refer to page 63 for IC Block Diagrams.



Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

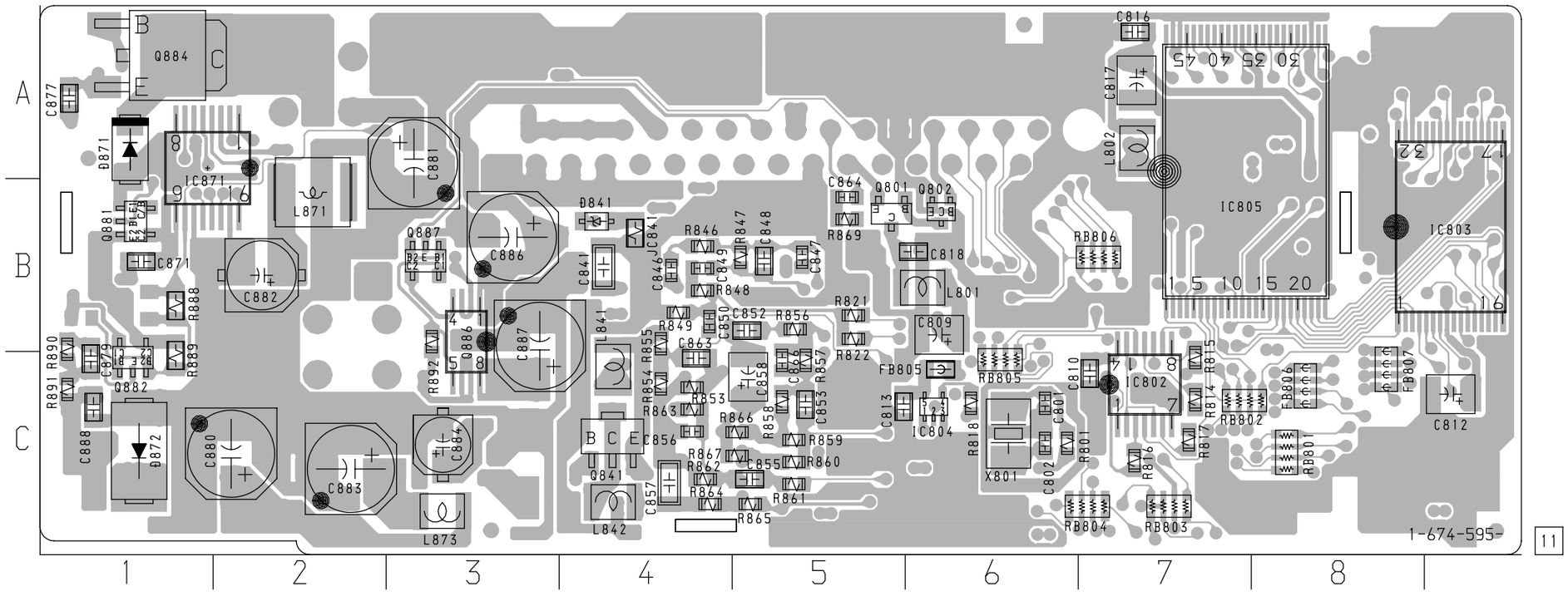
4-17. PRINTED WIRING BOARD — POWER SECTION —

• **Semiconductor Location**

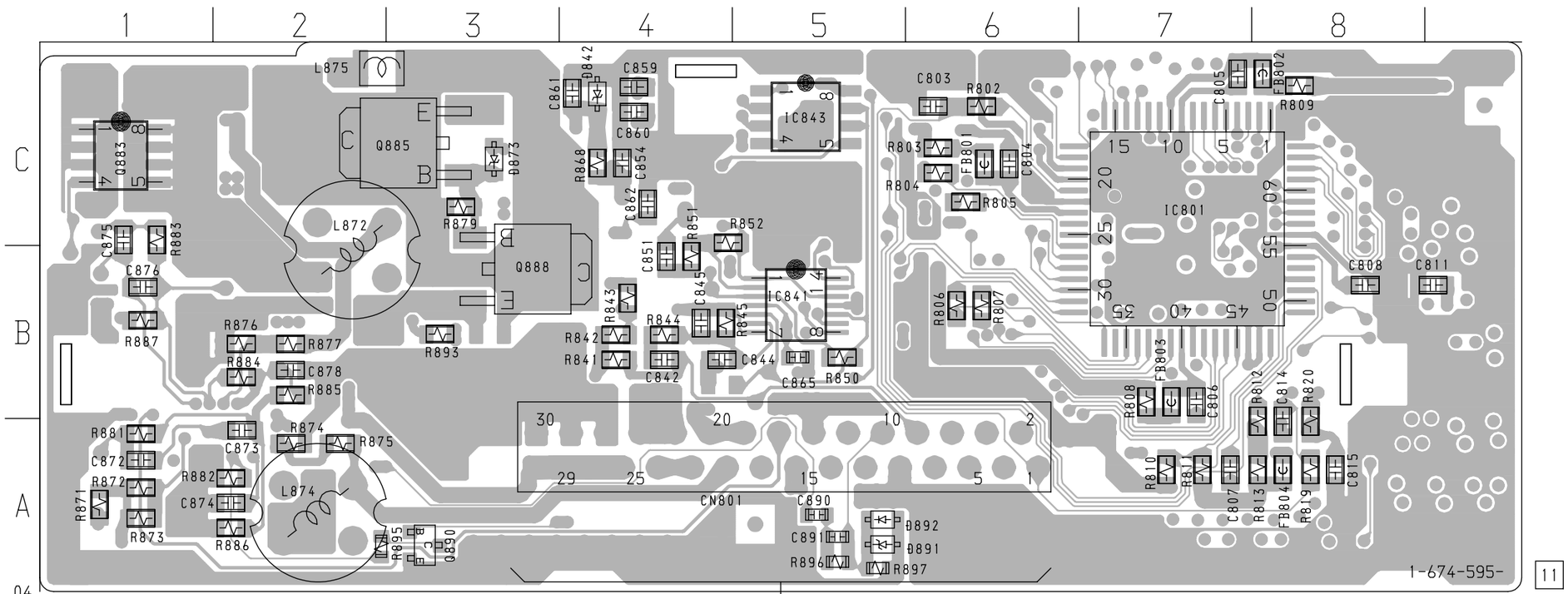
Ref. No.	Location
D841	B-3
(D842)	C-4
D871	A-1
D872	C-1
(D873)	C-3
(D891)	C-4
(D892)	C-4
(IC801)	C-7
IC802	C-6
IC803	B-9
IC804	C-6
IC805	B-7
(IC841)	B-4
(IC843)	C-5
IC871	A-1
Q801	B-5
Q802	B-6
Q841	C-4
Q881	B-1
Q882	C-1
(Q883)	C-1
Q884	A-1
(Q885)	C-1
Q886	B-3
Q887	B-3
(Q888)	B-3
(Q890)	A-3

( ) : SIDE B

【POWER BOARD】(SIDE A)



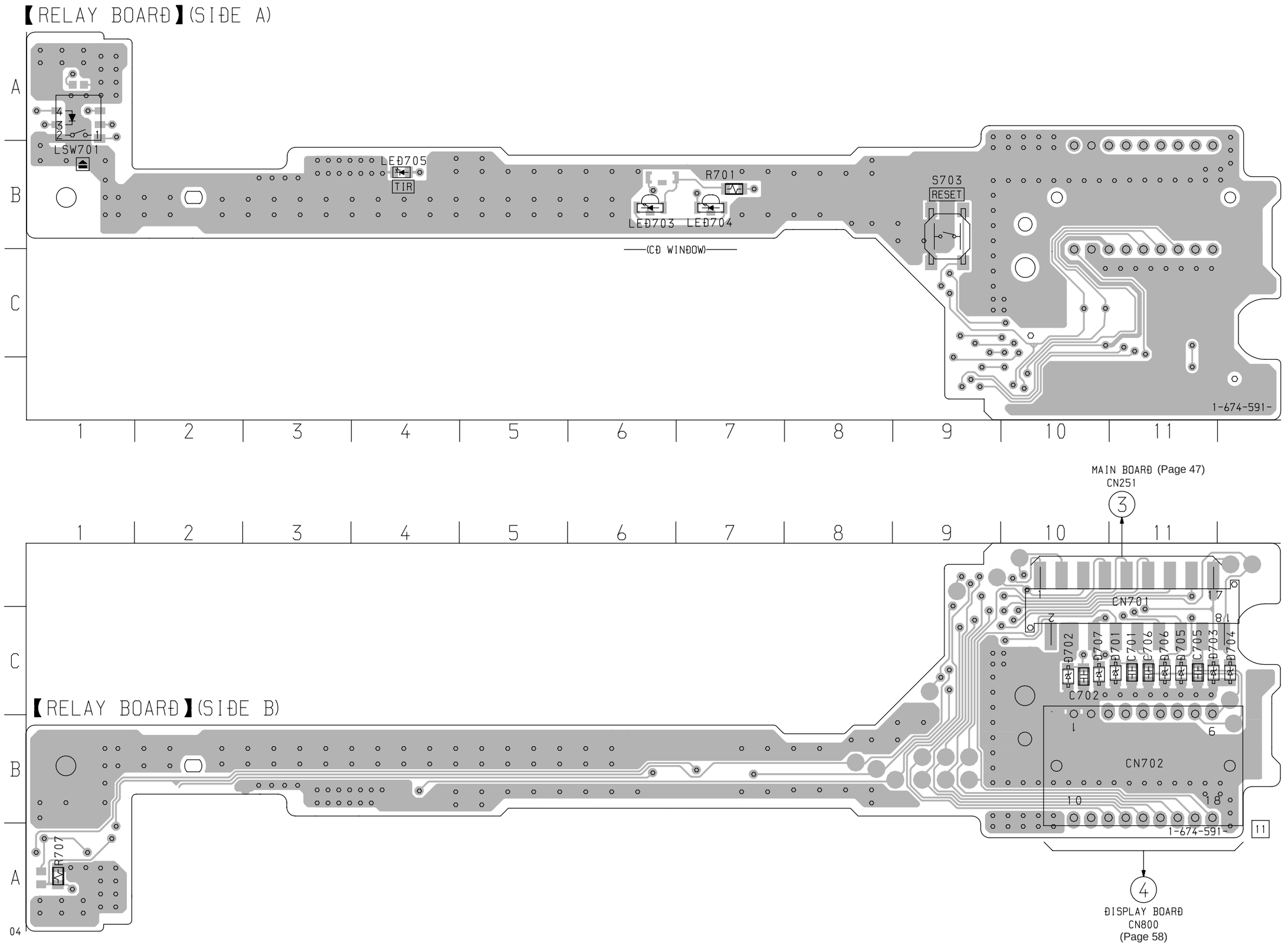
【POWER BOARD】(SIDE B)



2

MAIN BOARD (Page 46)
CN401

4-18. PRINTED WIRING BOARD — RELAY SECTION —

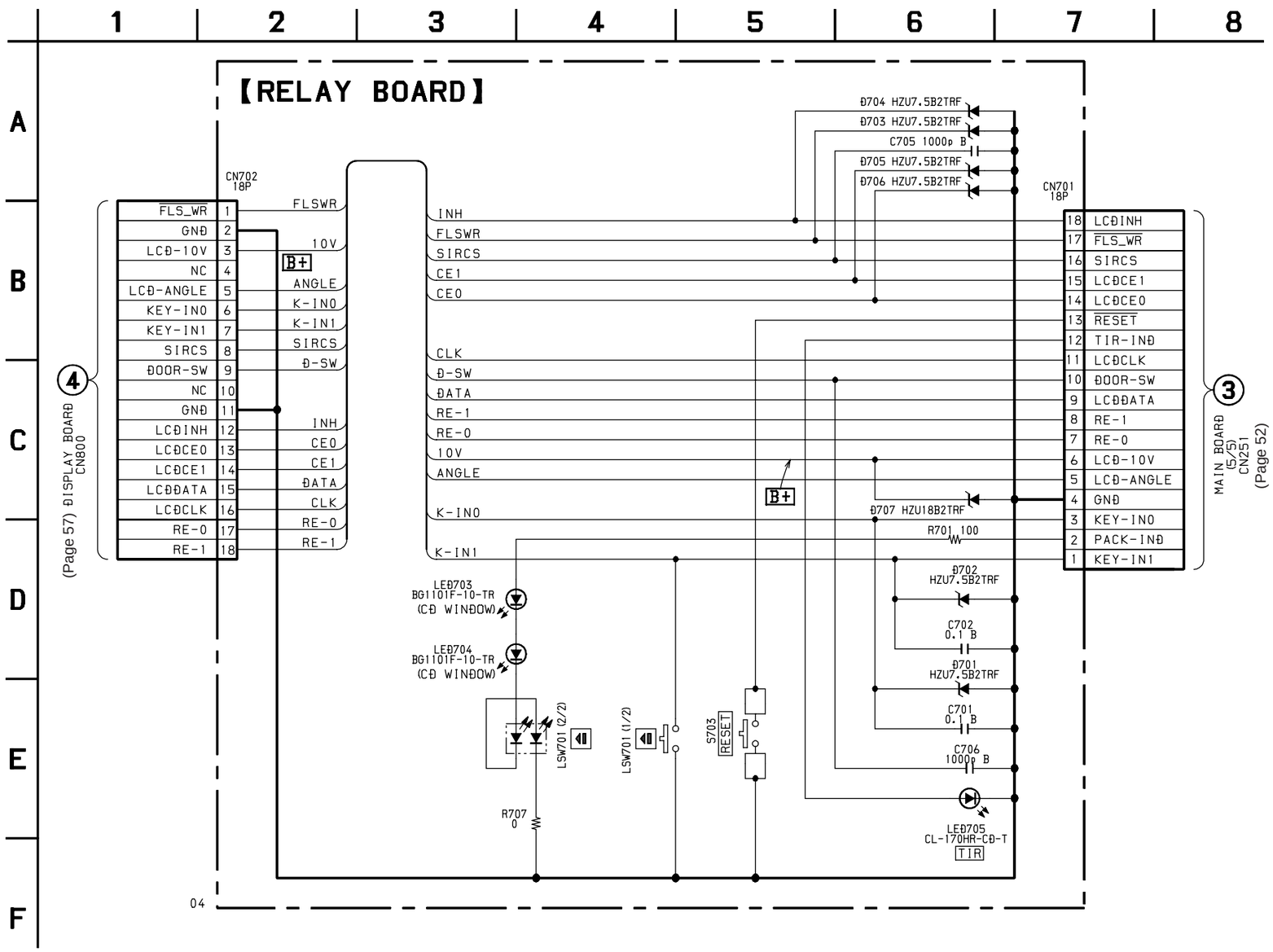


• **Semiconductor Location**

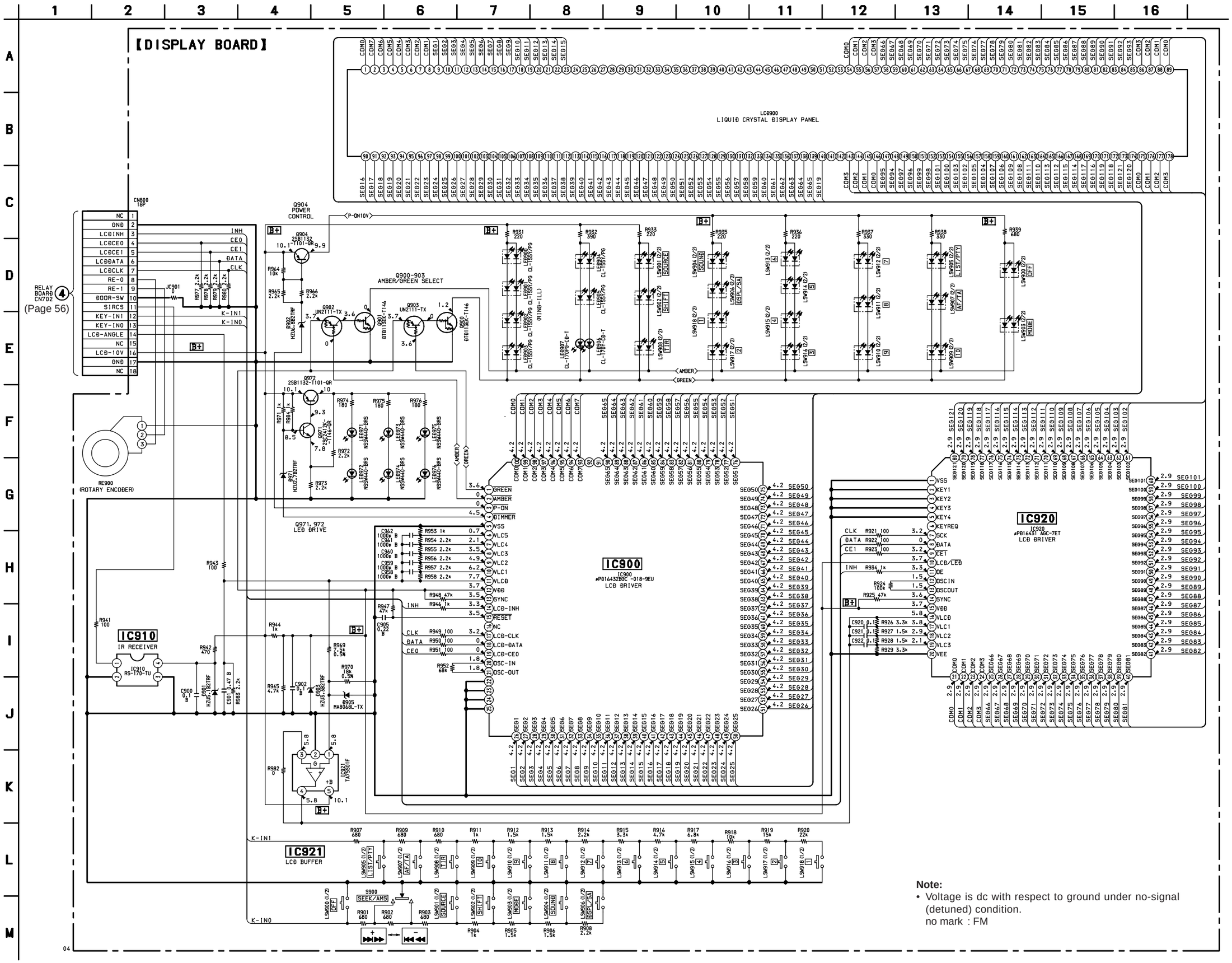
Ref. No.	Location
(D701)	C-11
(D702)	C-10
(D703)	C-11
(D704)	C-12
(D705)	C-11
(D706)	C-11
(D707)	C-10
LED703	B-6
LED704	B-7
LED705	B-4

( ) : SIDE B

4-19. SCHEMATIC DIAGRAM — RELAY SECTION —



4-20. SCHEMATIC DIAGRAM — DISPLAY SECTION —



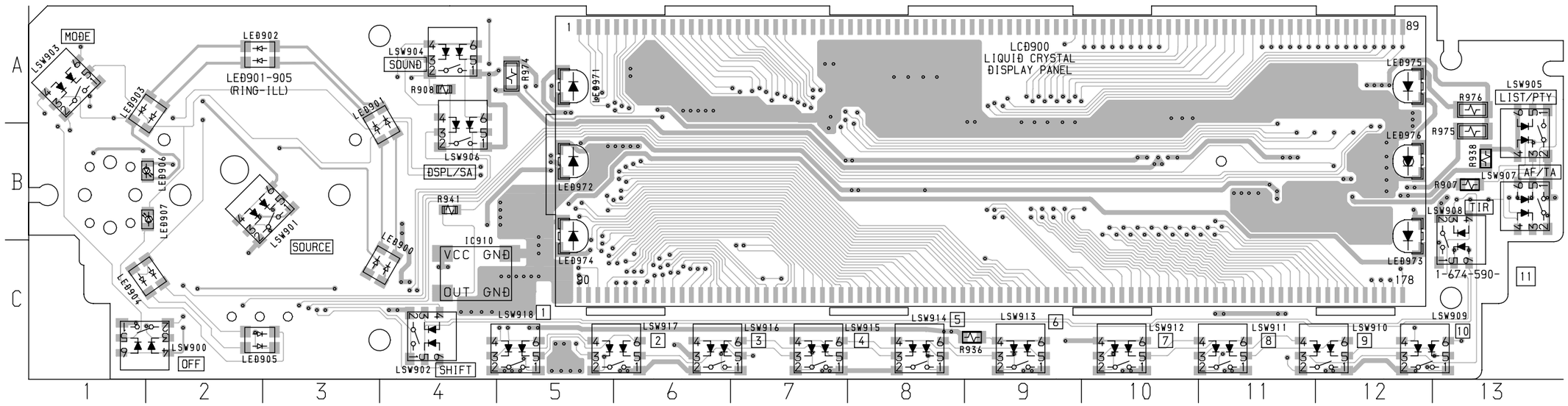
4-21. PRINTED WIRING BOARD — DISPLAY SECTION —

- **Semiconductor Location**

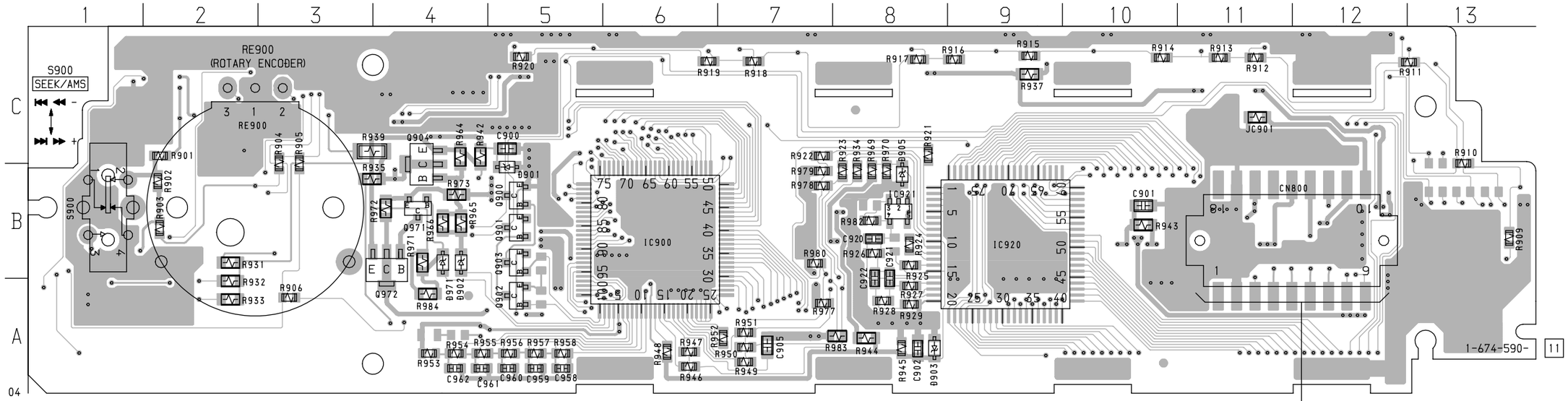
Ref. No.	Location
(D901)	B-5
(D902)	B-4
(D903)	A-8
(D905)	B-8
(D971)	B-4
(IC900)	B-6
IC910	C-4
(IC920)	B-9
(IC921)	B-8
LED900	C-4
LED901	B-4
LED902	A-3
LED903	A-2
LED904	C-2
LED905	C-2
LED906	B-2
LED907	B-2
LED971	A-5
LED972	B-5
LED973	B-12
LED974	B-5
LED975	A-12
LED976	B-12
(Q900)	B-5
(Q901)	B-5
(Q902)	A-5
(Q903)	B-5
(Q904)	C-4
(Q971)	B-4
(Q972)	B-4

( ) : SIDE B

【DISPLAY BOARD】(SIDE A)



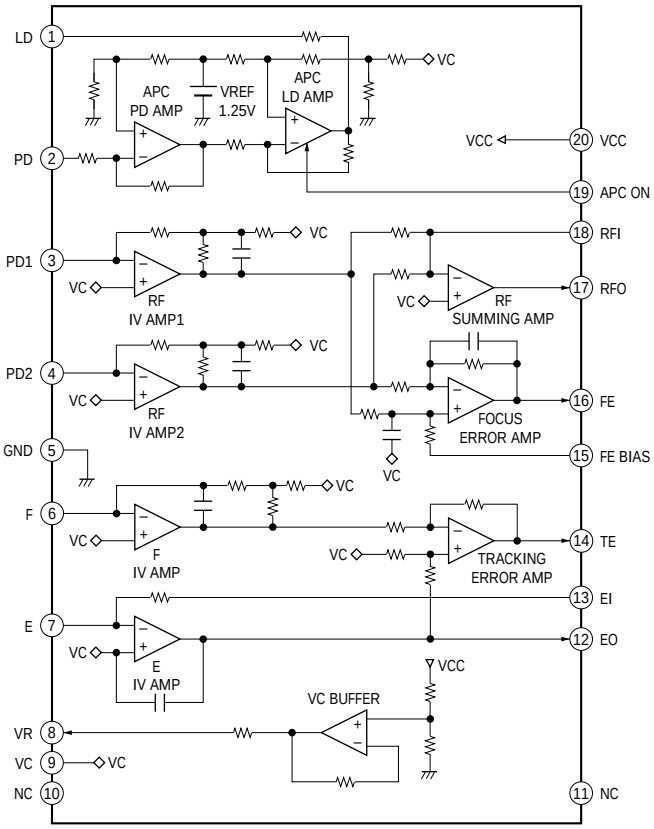
【DISPLAY BOARD】(SIDE B)



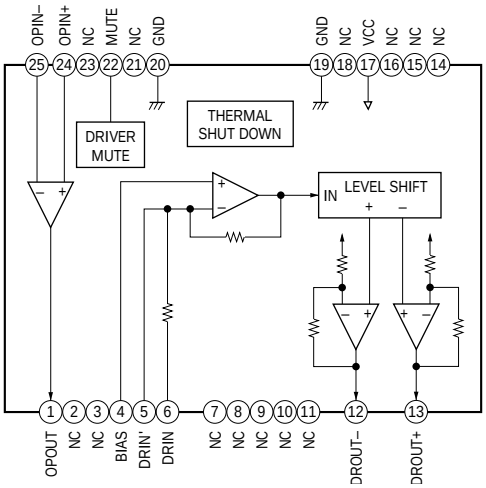
④
RELAY BOARD
CN702
(Page 55)

• IC Block Diagrams

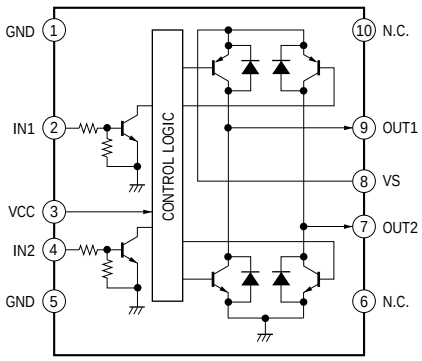
IC1 CXA1791N-T4



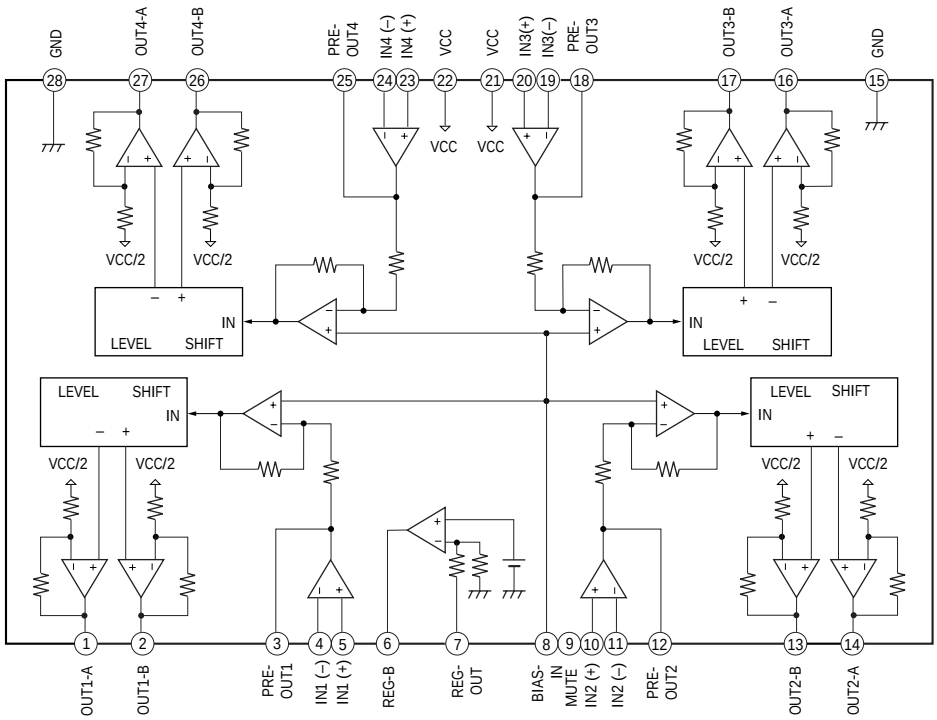
IC601 BA6195FP-YT2



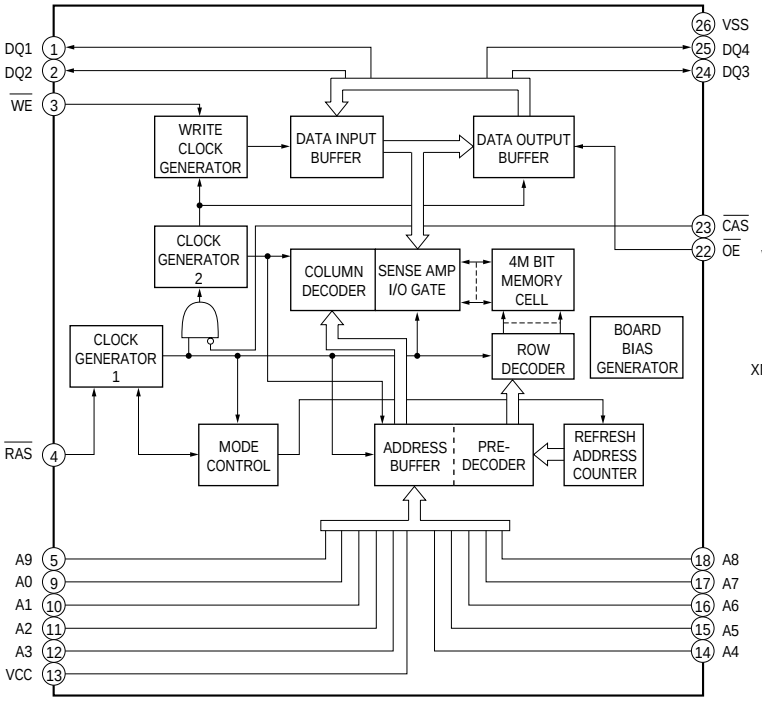
IC6 LB1638MTP-T1



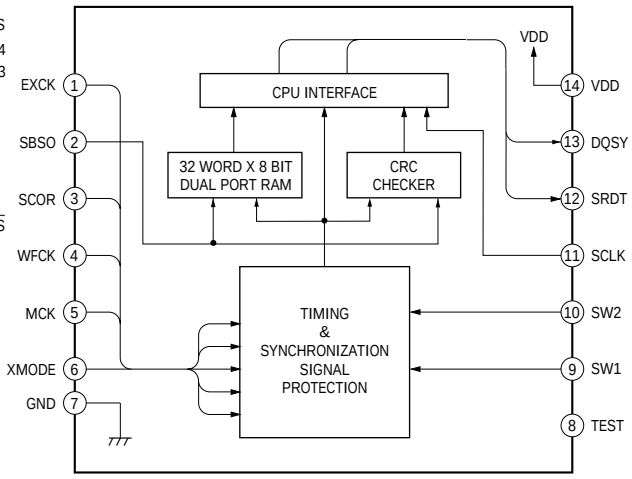
IC7 BA6797FP-E2



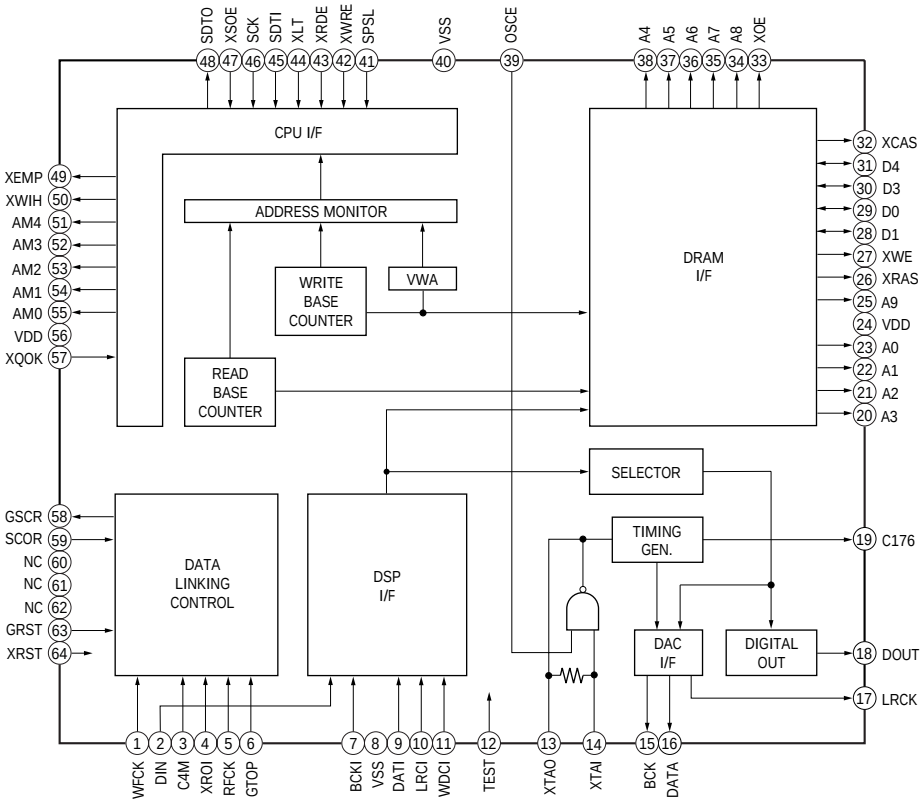
IC4 MB814400C-70PFTN



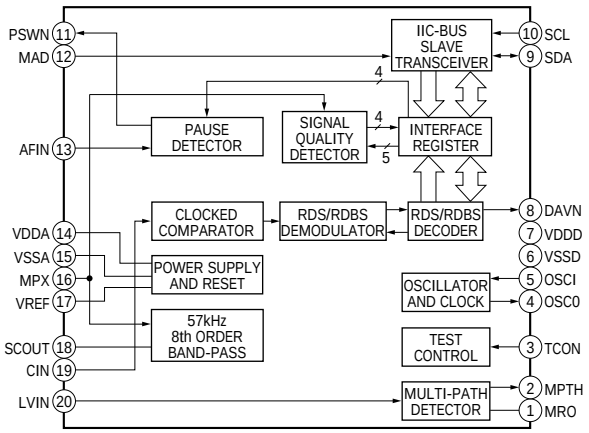
IC551 LC89170M-TLM



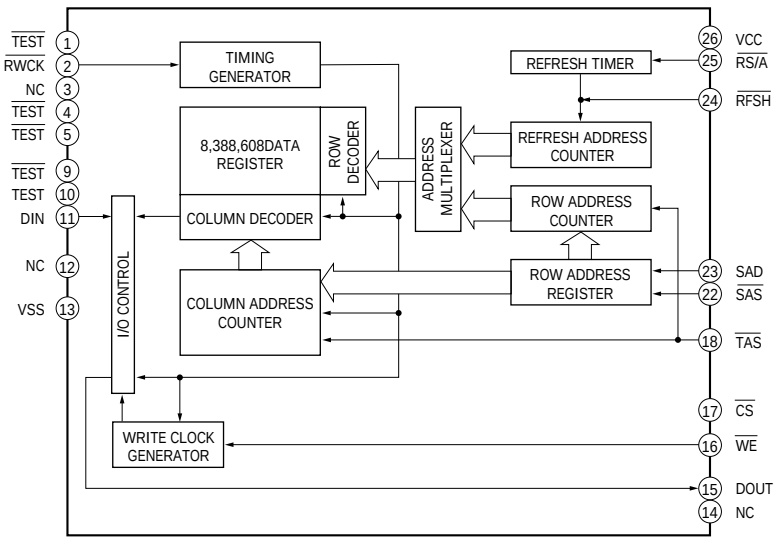
IC2 CXD2522R-T6



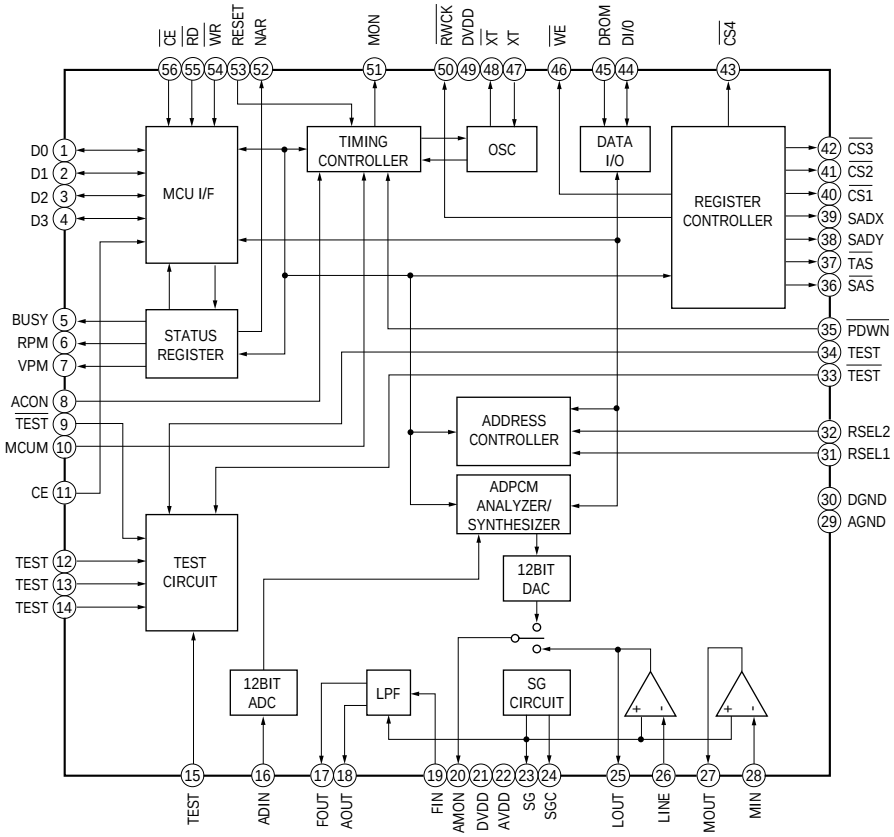
IC901 SAA6588T-118



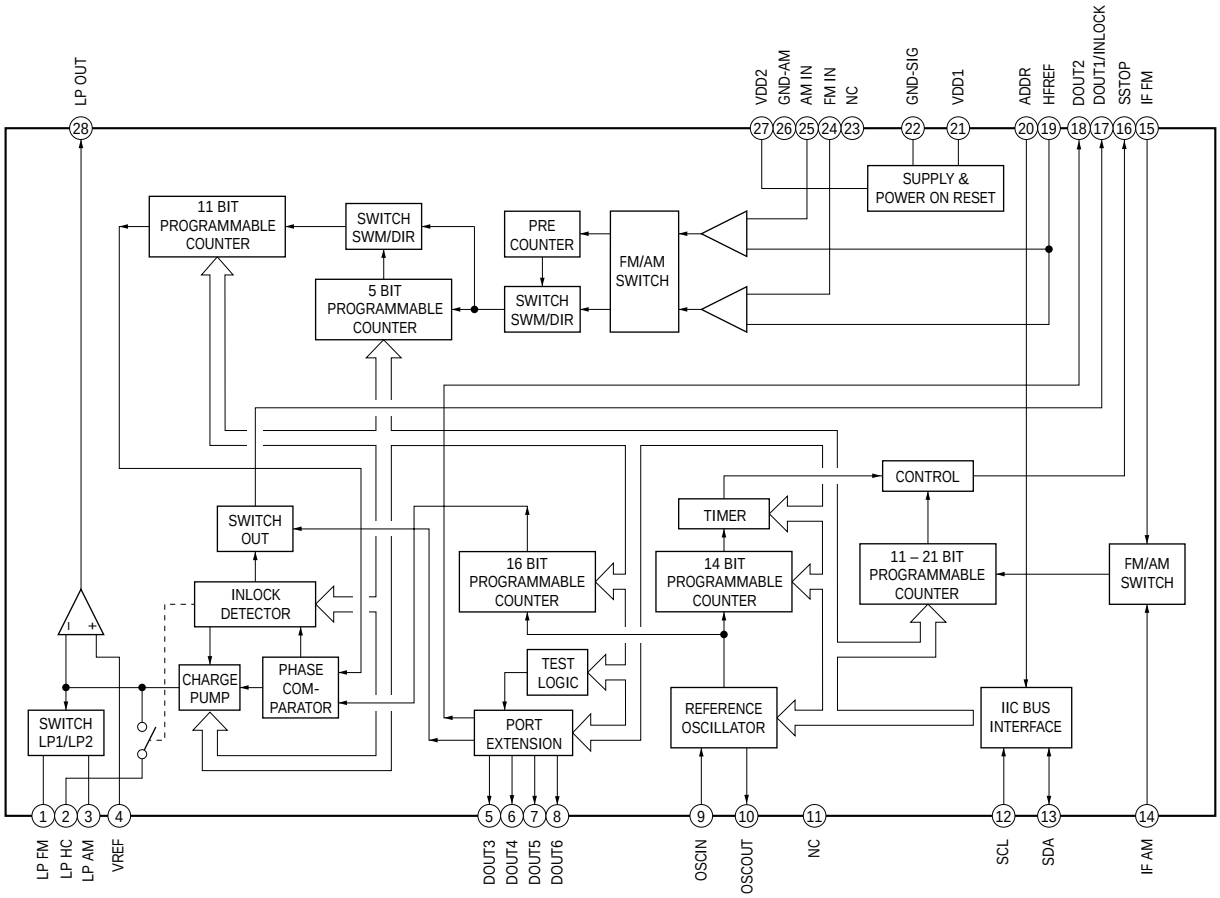
IC952 MSM6685JSDR1



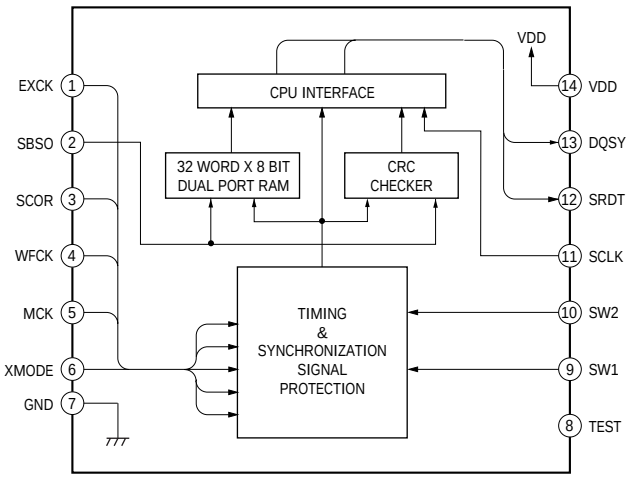
IC951 MSM6688GS-2K



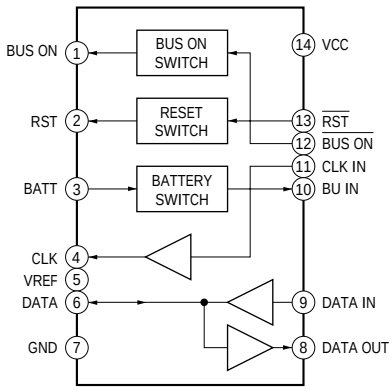
IC151 TDA7427ADTR



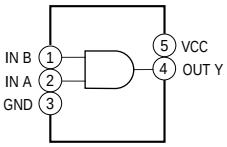
IC551 LC89170M-TLM



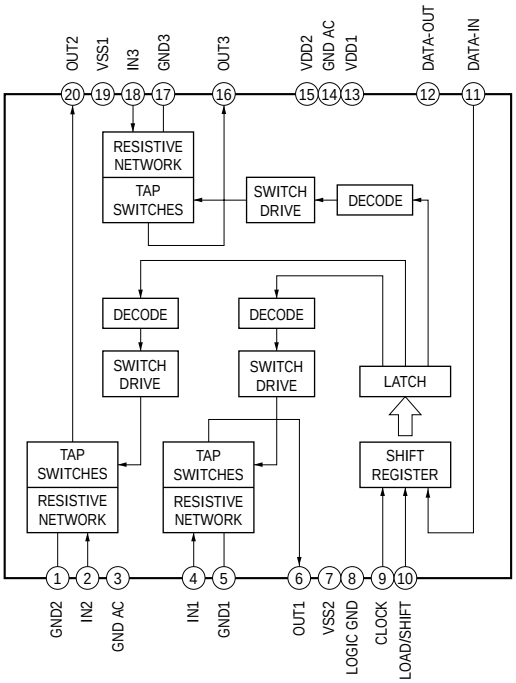
IC271 BA8270FV-E2



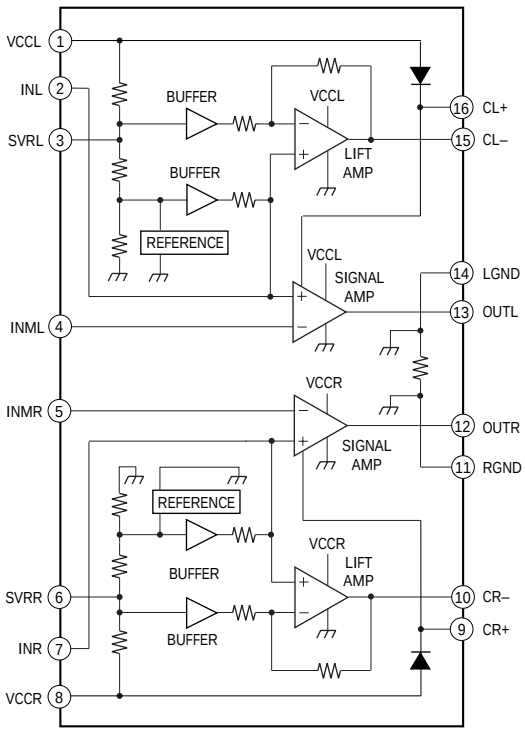
IC352 TC7SET08FU (TE85L)



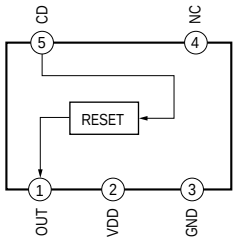
IC602, 632 LM1973XM



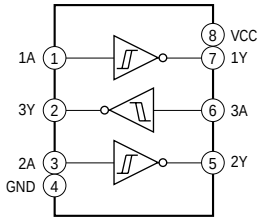
IC604, 634 NJM2160AM-TE2



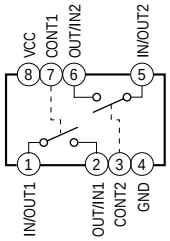
IC507 RN5VD33AA-TL



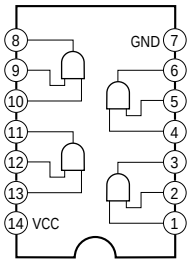
IC702 TC7W14FU (TE12R)



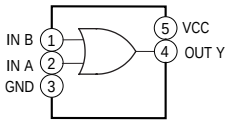
IC691, 752 TC7W66FU (TE12L)



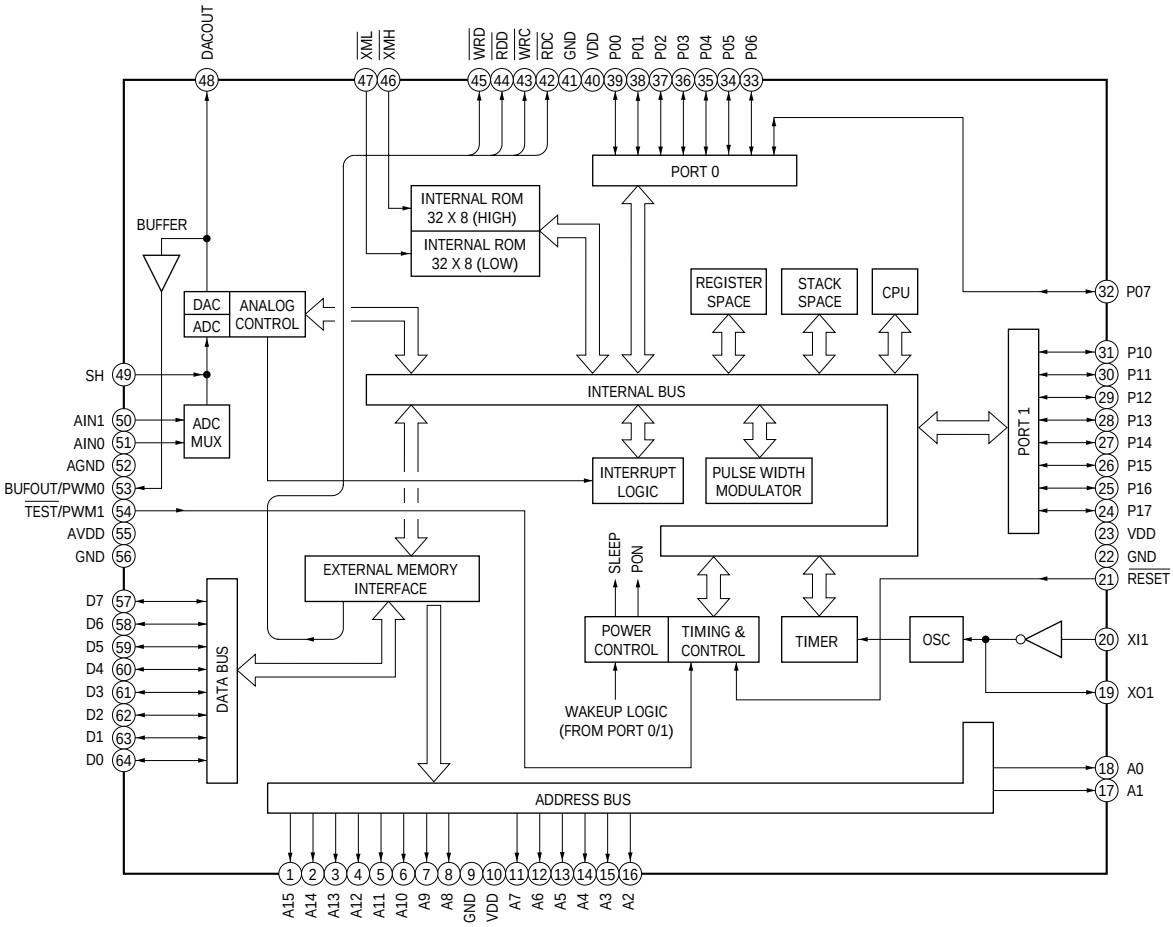
IC802 TC74VHC08FT (EL)



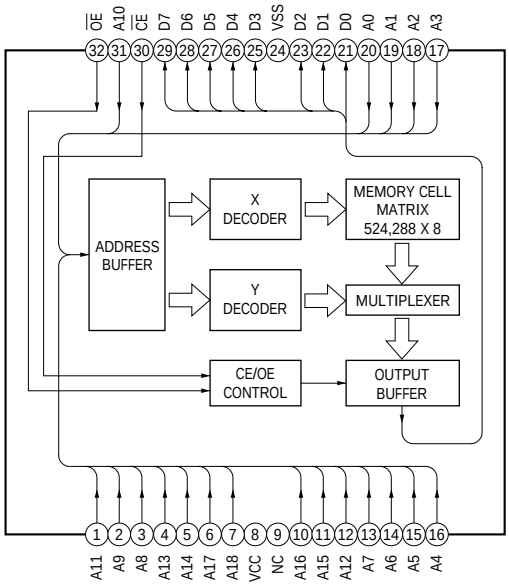
IC804 TCTS32FU-TE85L



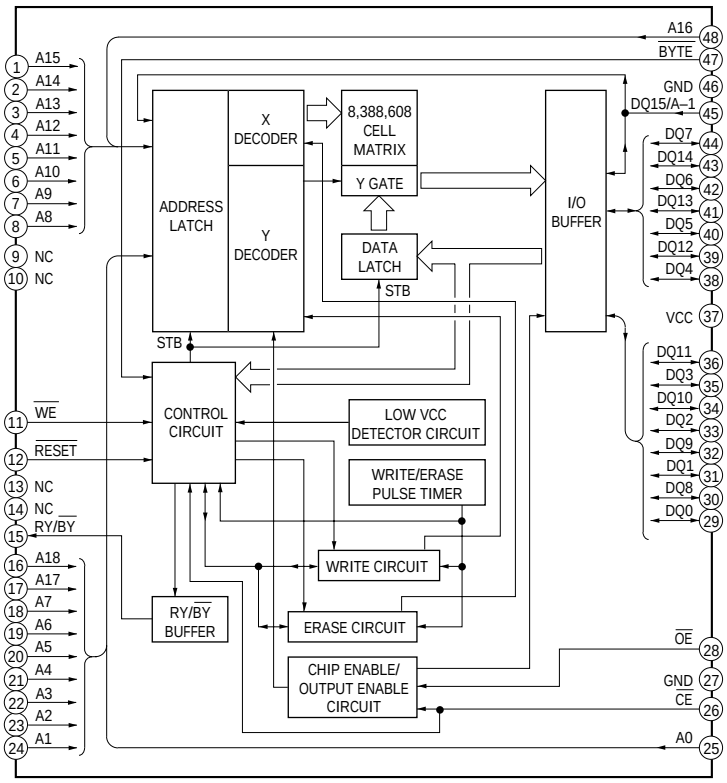
IC801 RSC-164



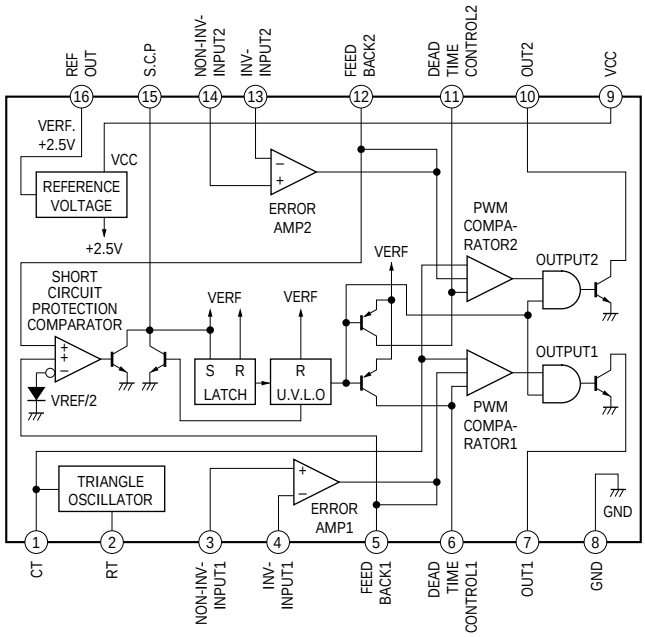
IC803 MSM534001E-49TSKFDR3 (TYPE A)
IC803 MSM534001E-50TSKFDR3 (TYPE B)
IC803 MSM534001E-51TSKFDR3 (TYPE C)



IC805 MBM29F800TA



IC871 TL1451ACDB-E20



SECTION 5
EXPLODED VIEWS

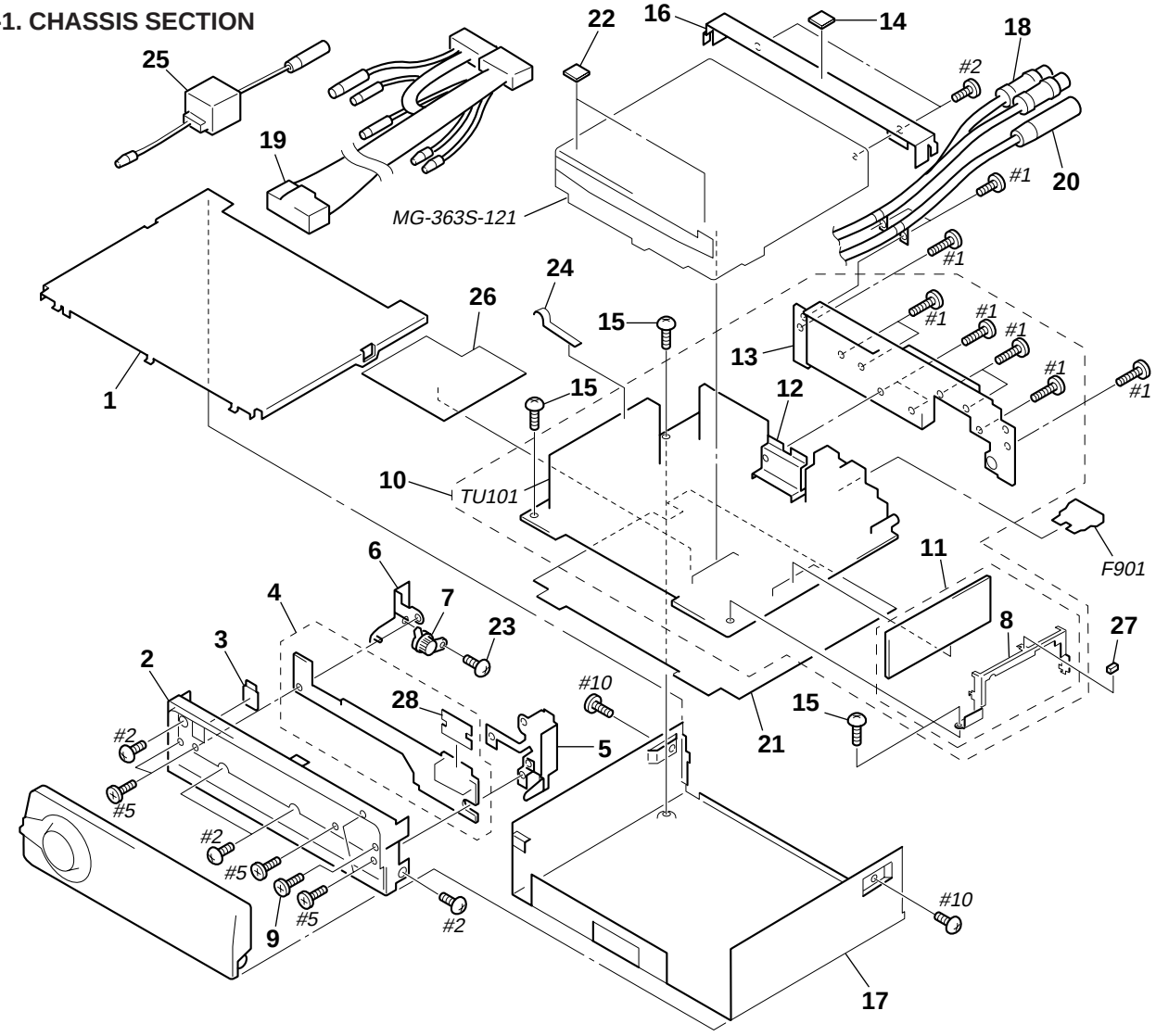
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

- Abbreviation
  TYPE A : ENGLISH, FRENCH
  TYPE B : ENGLISH, SPANISH
  TYPE C : ENGLISH, GERMAN

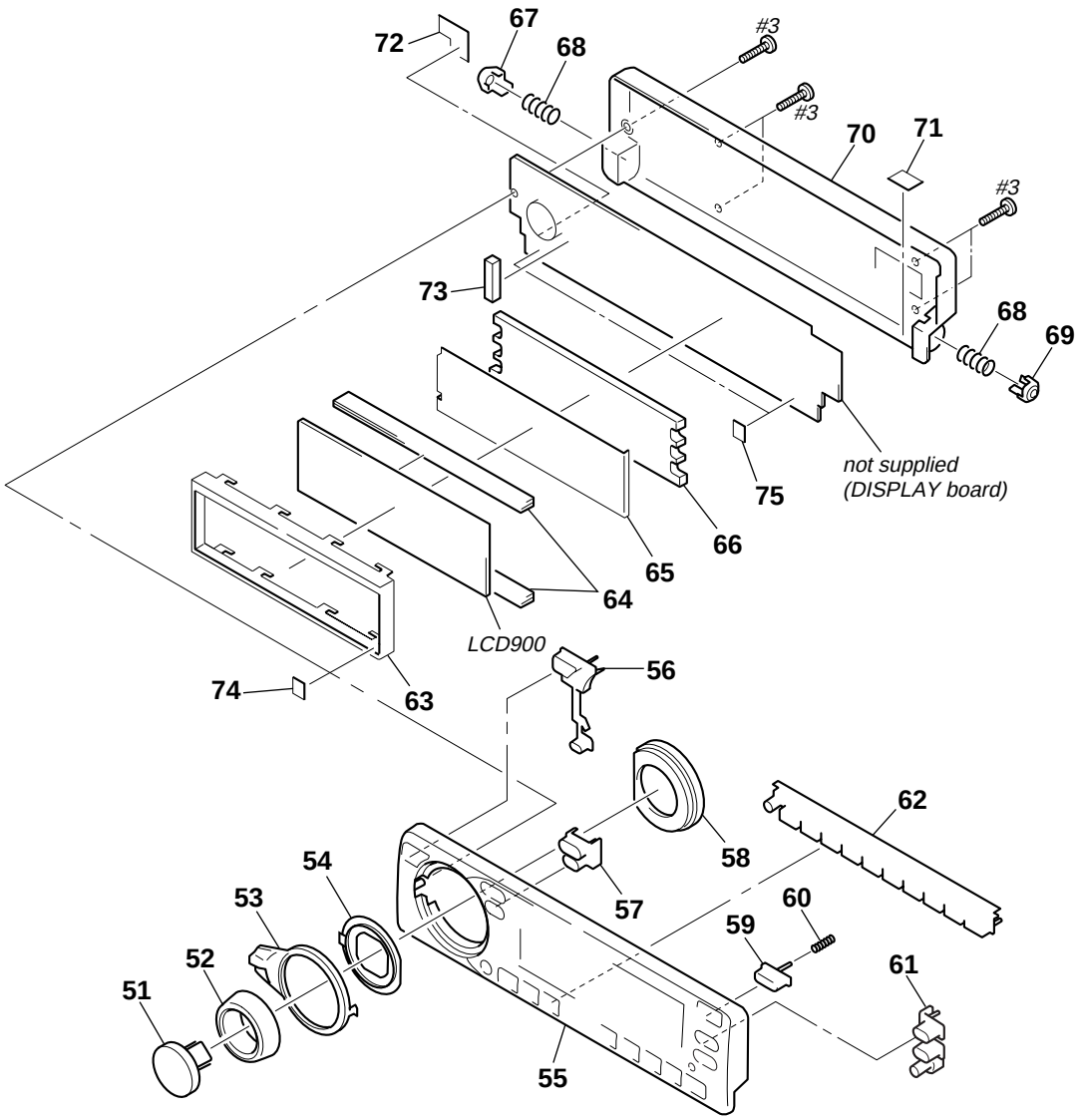
5-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	3-022-316-51	COVER	
2	X-3377-574-1	PANEL ASSY, SUB	
3	3-022-338-01	BUTTON (EJECT)	
* 4	A-3294-744-A	RELAY BOARD, COMPLETE	
5	X-3376-687-1	LOCK ASSY	
* 6	X-3376-689-1	BRACKET (GEAR) ASSY	
7	3-030-909-02	DAMPER, OIL	
* 8	3-036-995-01	BRACKET (POWER)	
9	3-035-250-01	SCREW (LOCK)	
* 10	A-3294-743-A	MAIN BOARD, COMPLETE (TYPE B)	
* 10	A-3294-745-A	MAIN BOARD, COMPLETE (TYPE C)	
* 10	A-3294-747-A	MAIN BOARD, COMPLETE (TYPE A)	
* 11	A-3294-739-A	POWER BOARD, COMPLETE (TYPE A)	
* 11	A-3294-742-A	POWER BOARD, COMPLETE (TYPE B)	
* 11	A-3294-746-A	POWER BOARD, COMPLETE (TYPE C)	
* 12	3-022-317-01	BRACKET (AMP)	
13	3-023-841-11	HEAT SINK	

Ref. No.	Part No.	Description	Remark
* 14	3-016-299-01	CUSHION	
15	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
* 16	3-022-335-01	BRACKET (MECHANISM DECK)	
* 17	3-022-311-31	CHASSIS	
18	1-790-355-31	CORD (WITH CONNECTOR) (RCA) (SUB OUT)	
19	1-776-527-71	CORD (WITH CONNECTOR) (ISO) (POWER)	
20	1-777-246-21	CORD (WITH CONNECTOR) (ANTENNA)	
* 21	3-036-998-01	SHEET, INSULATING	
* 22	2-389-320-01	RUBBER (A)	
23	3-713-786-51	SCREW +P 2X3	
24	3-360-123-01	PLATE (C), GROUND	
25	1-791-458-11	CABLE, POWER (WITH CHOKE COIL) (POWER)	
* 26	3-040-197-01	PLATE, SHIELD	
* 27	3-041-064-01	CUSHION (POWER)	
28	3-040-760-01	SHEET (CONNECTOR)	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
TU101	A-3282-045-A	TUNER UNIT (TUX-012(E))	

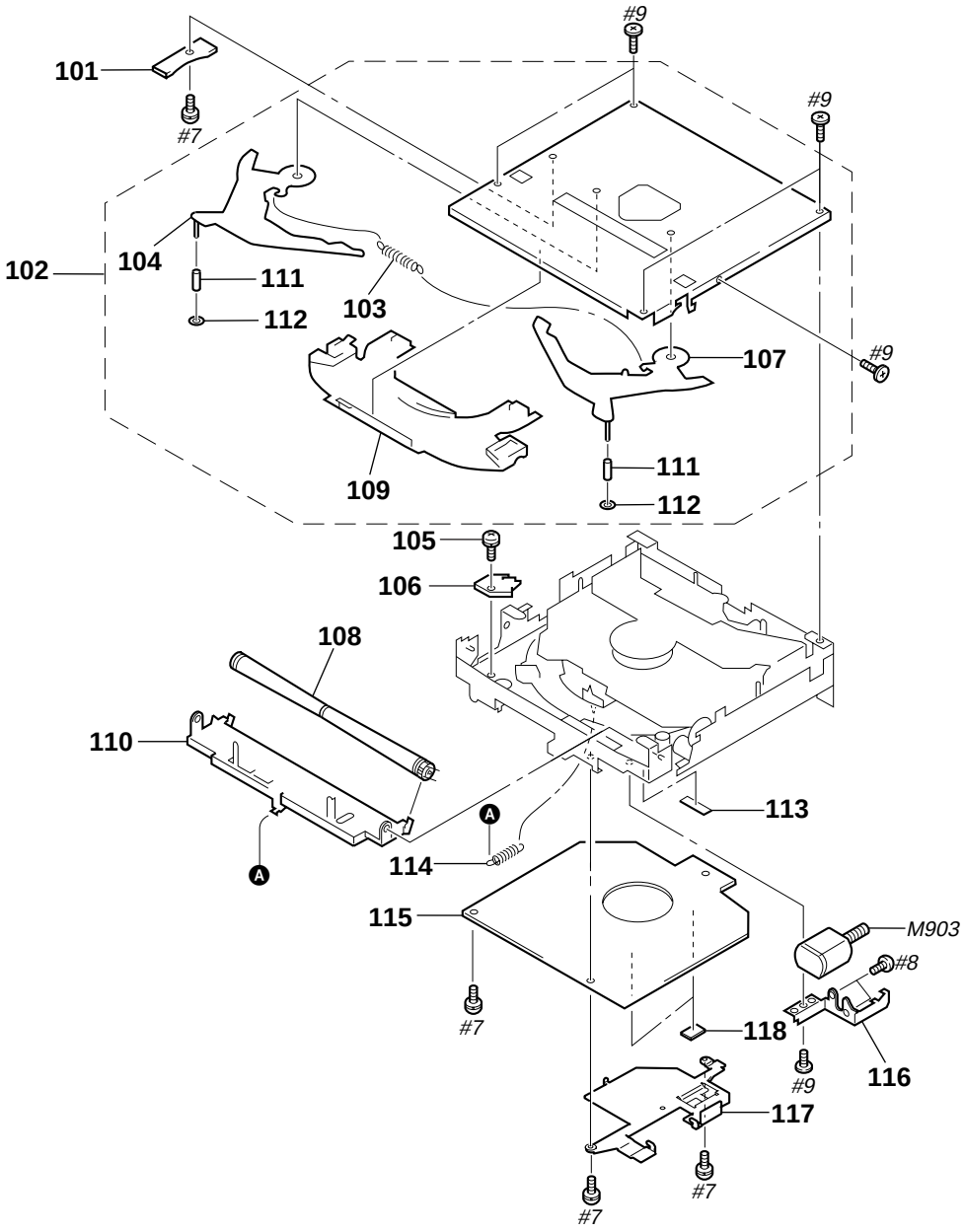
5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-022-329-21	BUTTON (SOURCE)	
52	3-033-667-02	KNOB (VOL)	
53	3-022-323-31	LEVER (SHUTTLE)	
* 54	3-030-648-01	PLATE (RING), LIGHT GUIDE	
55	X-3377-571-1	PANEL SUB ASSY, FRONT	
56	3-022-330-11	BUTTON (MODE)	
57	3-022-331-01	BUTTON (SOUND)	
58	3-022-324-02	PLATE (SHUTTLE), LIGHT GUIDE	
59	3-022-333-01	BUTTON (OPEN)	
60	3-935-151-01	SPRING (OPEN)	
61	3-022-308-01	BUTTON (PTY)	
62	3-022-332-01	BUTTON (10 KEY)	
* 63	3-037-152-01	BRACKET (LCD)	

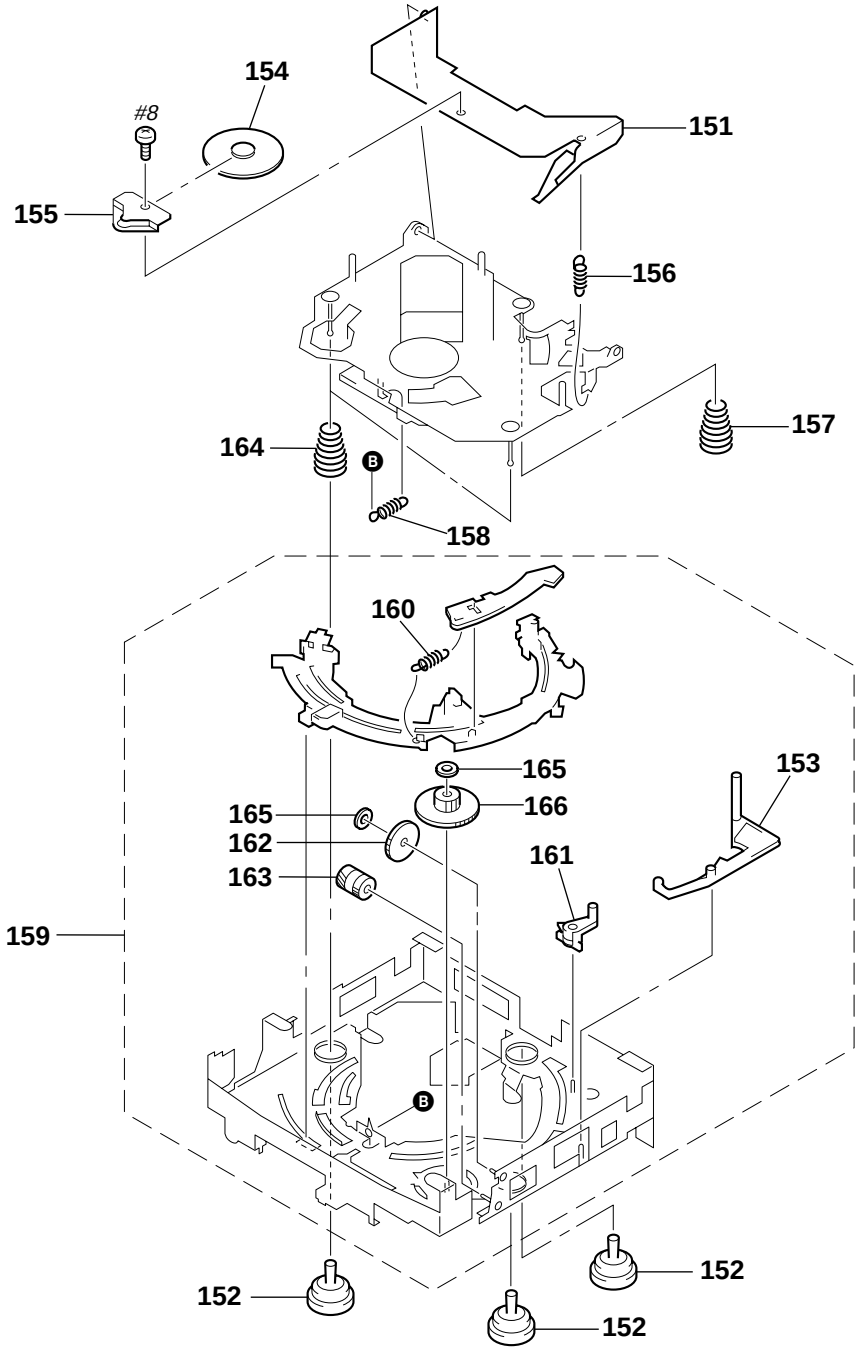
Ref. No.	Part No.	Description	Remark
64	1-694-414-11	CONDUCTOR BOARD, CONNECTION	
* 65	3-037-000-01	SHEET, DIFFUSION	
* 66	3-037-669-01	PLATE (LCD), LIGHT GUIDE	
67	3-010-999-01	BEARING (L)	
68	3-010-998-01	SPRING (BEARING)	
69	3-011-000-01	BEARING (R)	
70	X-3377-563-1	PANEL ASSY, FRONT BACK	
* 71	3-040-797-01	SPACER (S)	
* 72	3-040-798-01	SPACER (S2)	
* 73	3-040-254-01	CUSHION (RING)	
* 74	3-040-253-01	SPACER (LCD)	
* 75	3-322-226-41	SPACER (A)	
LCD900	1-803-633-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-3. CD MECHANISM SECTION (1)
(MG-363S-121)



Ref. No.	Part No.	Description	Remark
* 101	1-659-836-11	DISC IN SW BOARD	
* 102	A-3291-816-B	CHASSIS (T) SUB ASSY	
103	3-931-909-01	SPRING (LR), TENSION	
104	X-3371-501-1	LEVER (L) ASSY	
105	3-338-737-01	SCREW (2X3), +PS	
* 106	1-659-837-11	LOAD SW BOARD	
107	X-3371-502-1	LEVER (R) ASSY	
108	A-3301-203-A	ROLLER ASSY	
109	3-931-908-01	GUIDE (DISC)	
110	3-931-902-04	ARM (ROLLER)	
111	3-936-756-01	ROLLER (D)	
112	3-321-393-01	WASHER, STOPPER	
* 113	3-939-139-01	SPACER	
114	3-931-916-01	SPRING (RA), TENSION	
* 115	A-3313-381-A	SERVO BOARD, COMPLETE	
* 116	3-007-530-01	BRACKET (MOTOR)	
* 117	3-023-537-04	HEAT SINK	
* 118	3-023-538-01	SHEET, RADIATION	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING (LOADING)	

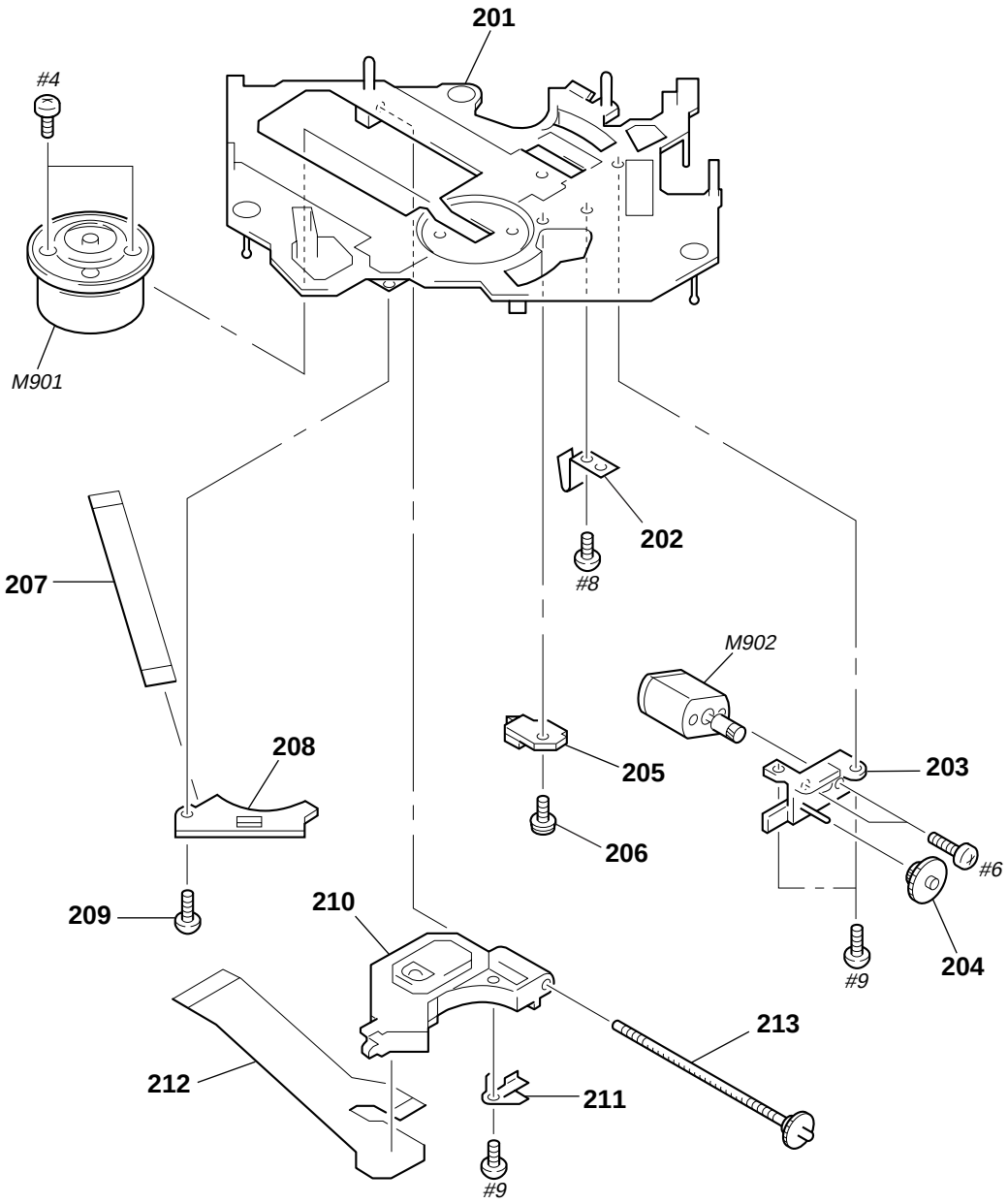
5-4. CD MECHANISM SECTION (2)
(MG-363S-121)



Ref. No.	Part No.	Description	Remark
151	3-931-893-01	ARM, CHUCKING	
152	3-931-897-01	DAMPER (T)	
153	3-931-879-02	LEVER (D)	
* 154	3-913-404-11	RETAINER (DISC)	
155	3-931-894-01	BRACKET (CP)	
156	3-931-895-01	SPRING (CH), TENSION	
157	3-931-898-01	SPRING (FL), COMPRESSION	
158	3-931-914-01	SPRING (ANGLE), TENSION	

Ref. No.	Part No.	Description	Remark
159	A-3277-802-C	CHASSIS (M) COMPLETE ASSY	
160	3-931-883-01	SPRING (TR), TENSION	
161	3-931-881-01	LEVER (LOCK)	
162	3-931-882-02	GEAR (MDL)	
163	3-007-537-11	WHEEL (U), WORM	
164	3-931-898-11	SPRING (FL), COMPRESSION	
165	3-018-272-01	WASHER	
166	3-014-727-01	WHEEL (LW), WORM	

5-5. CD MECHANISM SECTION (3)
(MG-363S-121)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 201	X-3374-022-1	CHASSIS (OP) (O/S) ASSY	
202	3-931-829-01	SPRING (SL), PLATE	
203	X-3371-504-1	BASE (DRIVING) ASSY	
204	3-931-832-01	GEAR (SL MIDWAY)	
* 205	1-659-835-12	LIMIT SW BOARD	
206	3-338-737-01	SCREW (2X3), +PS	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
* 208	1-659-834-11	SUB BOARD	
209	3-909-607-01	SCREW	
⚠210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
211	3-931-834-01	SPRING (FEED), PLATE	
212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
213	A-3291-669-A	SHAFT (FEED) ASSY	
M901	X-3373-096-1	MOTOR ASSY (SPINDLE)	
M902	A-3301-107-A	MOTOR ASSY, SLED (SLED)	

SECTION 6
ELECTRICAL PARTS LIST

DISC IN SW **DISPLAY**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviation
  TYPE A : ENGLISH, FRENCH
  TYPE B : ENGLISH, SPANISH
  TYPE C : ENGLISH, GERMAN

Ref. No.	Part No.	Description			Remark
*	1-659-836-11	DISC IN SW BOARD			
		**********			
		< SWITCH >			
SW1	1-572-288-21	SWITCH, PUSH (DISC IN)			
SW2	1-572-288-21	SWITCH, PUSH (SELF)			
**********					
		DISPLAY BOARD			
		**********			
	1-694-414-11	CONDUCTOR BOARD, CONNECTION			
*	3-037-000-01	SHEET, DIFFUSION			
*	3-037-152-01	BRACKET (LCD)			
*	3-037-669-01	PLATE (LCD), LIGHT GUIDE			
		< CAPACITOR >			
C900	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C901	1-107-823-11	CERAMIC CHIP	0.47uF	10% 16V	
C902	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C905	1-164-489-11	CERAMIC CHIP	0.22uF	10% 16V	
C920	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C921	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C922	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C958	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	
C959	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	
C960	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	
C961	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	
C962	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	
		< CONNECTOR >			
CN800	1-778-183-11	PLUG, CONNECTOR 18P			
		< DIODE >			
D901	8-719-976-99	DIODE HZU5.1B2TRF			
D902	8-719-064-08	DIODE HZU6.8B2TRF			
D903	8-719-071-62	DIODE HZU3.3B2TRF			
D905	8-719-017-62	DIODE MA8068-L-TX			
D971	8-719-071-59	DIODE HZU2.7B2TRF			
		< IC >			
IC900	8-759-496-75	IC uPD16432BGC-018-9EU			
IC910	8-749-012-25	IC RS-170-TU			
IC920	8-759-580-20	IC uPD16431AGC-7ET			
IC921	8-759-075-66	IC TA75S01F(TE85L)			

Ref. No.	Part No.	Description	Remark
		< JUMPER RESISTOR >	
JC901	1-216-295-00	SHORT 0	
		< LIQUID CRYSTAL DISPLAY >	
LCD900	1-803-633-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< DIODE >	
LED900	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED901	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED902	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED903	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED904	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED905	8-719-987-45	LED CL-155Y/PG-CD-TL	
LED906	8-719-033-13	LED CL-170Y-CD-T	
LED907	8-719-033-14	LED CL-170PG-CD-T	
LED971	8-719-076-58	LED NSSW440-BRS	
LED972	8-719-076-58	LED NSSW440-BRS	
LED973	8-719-076-58	LED NSSW440-BRS	
LED974	8-719-076-58	LED NSSW440-BRS	
LED975	8-719-076-58	LED NSSW440-BRS	
LED976	8-719-076-58	LED NSSW440-BRS	
		< SWITCH >	
LSW900	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (OFF)	
LSW901	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (SOURCE)	
LSW902	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (SHIFT)	
LSW903	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (MODE)	
LSW904	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (SOUND)	
LSW905	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (LIST/PTY)	
LSW906	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (DSPL/SA)	
LSW907	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (AF/TA)	
LSW908	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (TIR)	
LSW909	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (10)	
LSW910	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (9)	
LSW911	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (8)	
LSW912	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (7)	
LSW913	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (6)	
LSW914	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (5)	
LSW915	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (4)	
LSW916	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (3)	
LSW917	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (2)	
LSW918	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (1)	

DISPLAY LIMIT SW LOAD SW

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q900	8-729-904-66	TRANSISTOR	DTD113EK-T-146		
Q901	8-729-904-66	TRANSISTOR	DTD113EK-T-146		
Q902	8-729-424-08	TRANSISTOR	UN2111-TX		
Q903	8-729-424-08	TRANSISTOR	UN2111-TX		
Q904	8-729-106-60	TRANSISTOR	2SB1132-T101-QR		
Q971	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR		
Q972	8-729-106-60	TRANSISTOR	2SB1132-T101-QR		
		< RESISTOR >			
R901	1-219-286-11	RES,CHIP	680	2%	1/16W
R902	1-219-286-11	RES,CHIP	680	2%	1/16W
R903	1-219-286-11	RES,CHIP	680	2%	1/16W
R904	1-218-847-11	RES,CHIP	1K	2%	1/16W
R905	1-218-851-11	RES,CHIP	1.5K	2%	1/16W
R906	1-218-851-11	RES,CHIP	1.5K	2%	1/16W
R907	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R908	1-218-855-11	RES,CHIP	2.2K	2%	1/16W
R909	1-219-286-11	RES,CHIP	680	2%	1/16W
R910	1-219-286-11	RES,CHIP	680	2%	1/16W
R911	1-218-847-11	RES,CHIP	1K	2%	1/16W
R912	1-218-851-11	RES,CHIP	1.5K	2%	1/16W
R913	1-218-851-11	RES,CHIP	1.5K	2%	1/16W
R914	1-218-855-11	RES,CHIP	2.2K	2%	1/16W
R915	1-218-859-11	RES,CHIP	3.3K	2%	1/16W
R916	1-218-863-11	RES,CHIP	4.7K	2%	1/16W
R917	1-218-867-11	RES,CHIP	6.8K	2%	1/16W
R918	1-218-871-11	RES,CHIP	10K	2%	1/16W
R919	1-218-875-11	RES,CHIP	15K	2%	1/16W
R920	1-218-879-11	RES,CHIP	22K	2%	1/16W
R921	1-216-809-11	METAL CHIP	100	5%	1/16W
R922	1-216-809-11	METAL CHIP	100	5%	1/16W
R923	1-216-809-11	METAL CHIP	100	5%	1/16W
R924	1-216-845-11	METAL CHIP	100K	5%	1/16W
R925	1-216-841-11	METAL CHIP	47K	5%	1/16W
R926	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R927	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R928	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R929	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R931	1-216-033-00	METAL CHIP	220	5%	1/10W
R932	1-216-039-00	METAL CHIP	390	5%	1/10W
R933	1-216-033-00	METAL CHIP	220	5%	1/10W
R934	1-216-821-11	METAL CHIP	1K	5%	1/16W
R935	1-216-033-00	METAL CHIP	220	5%	1/10W
R936	1-216-033-00	METAL CHIP	220	5%	1/10W
R937	1-216-037-00	METAL CHIP	330	5%	1/10W
R938	1-216-037-00	METAL CHIP	330	5%	1/10W
R939	1-216-194-00	METAL CHIP	680	5%	1/8W
R941	1-216-809-11	METAL CHIP	100	5%	1/16W
R942	1-216-041-00	METAL CHIP	470	5%	1/10W
R943	1-216-025-00	RES,CHIP	100	5%	1/10W
R944	1-216-049-11	RES,CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R945	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R946	1-216-821-11	METAL CHIP	1K	5%	1/16W
R947	1-216-841-11	METAL CHIP	47K	5%	1/16W
R948	1-216-841-11	METAL CHIP	47K	5%	1/16W
R949	1-216-809-11	METAL CHIP	100	5%	1/16W
R950	1-216-809-11	METAL CHIP	100	5%	1/16W
R951	1-216-809-11	METAL CHIP	100	5%	1/16W
R952	1-216-843-11	METAL CHIP	68K	5%	1/16W
R953	1-216-821-11	METAL CHIP	1K	5%	1/16W
R954	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R955	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R956	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R957	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R958	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R964	1-216-073-00	METAL CHIP	10K	5%	1/10W
R965	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R966	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R969	1-218-713-11	METAL CHIP	7.5K	0.50%	1/16W
R970	1-218-722-11	METAL CHIP	18K	0.50%	1/16W
R971	1-216-049-11	RES,CHIP	1K	5%	1/10W
R972	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R973	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R974	1-216-180-00	RES,CHIP	180	5%	1/8W
R975	1-216-180-00	RES,CHIP	180	5%	1/8W
R976	1-216-180-00	RES,CHIP	180	5%	1/8W
R977	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R978	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R979	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R980	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R982	1-216-864-11	METAL CHIP	0	5%	1/16W
R983	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R984	1-216-049-11	RES,CHIP	1K	5%	1/10W
		< ROTARY ENCODER >			
RE900	1-475-014-11	ENCODER, ROTARY			
		< SWITCH >			
S900	1-771-290-11	SWITCH, SLIDE (SEEK/AMS)			
**********					
*	1-659-835-12	LIMIT SW BOARD			
		**********			
		< SWITCH >			
SW3	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)			
**********					
*	1-659-837-11	LOAD SW BOARD			
		**********			
		< SWITCH>			
SW4	1-572-288-21	SWITCH, PUSH (DOWN)			
**********					

Ref. No.	Part No.	Description			Remark
*	A-3294-743-A	MAIN BOARD, COMPLETE (TYPE B) (INCLUDING POWER BOARD, COMPLETE)			
*	A-3294-745-A	MAIN BOARD, COMPLETE (TYPE C) (INCLUDING POWER BOARD, COMPLETE)			
*	A-3294-747-A	MAIN BOARD, COMPLETE (TYPE A) (INCLUDING POWER BOARD, COMPLETE)			
		**********			
*	3-022-317-01	BRACKET (AMP)			
	3-023-841-11	HEAT SINK			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< BUZZER >			
BZ500	1-504-920-11	BUZZER			
		< CAPACITOR >			
C101	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C102	1-117-681-11	ELECT CHIP	100uF	20%	16V
C103	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C104	1-117-681-11	ELECT CHIP	100uF	20%	16V
C105	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C106	1-117-681-11	ELECT CHIP	100uF	20%	16V
C107	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C108	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C109	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C110	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C112	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C113	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C114	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C115	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C131	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C132	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C133	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C134	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C135	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C136	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C137	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C138	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C139	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C140	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C151	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C152	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C153	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C154	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C155	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C156	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C157	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C158	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C159	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C161	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C162	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C164	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C165	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C167	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C168	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C169	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C170	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C171	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C181	1-126-204-11	ELECT CHIP	47uF	20%	16V
C182	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C254	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C271	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C272	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C291	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C292	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C293	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C301	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C314	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C316	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C319	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C320	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C321	1-126-246-11	ELECT CHIP	220uF	20%	4V
C323	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C324	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C327	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C328	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C329	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C331	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C333	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C334	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C335	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C336	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C337	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C341	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C351	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C352	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C353	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C401	1-117-681-11	ELECT CHIP	100uF	20%	16V
C402	1-126-246-11	ELECT CHIP	220uF	20%	4V
C403	1-117-681-11	ELECT CHIP	100uF	20%	16V
C404	1-117-681-11	ELECT CHIP	100uF	20%	16V
C405	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C406	1-126-395-11	ELECT	22uF	20%	16V
C407	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C408	1-117-681-11	ELECT CHIP	100uF	20%	16V
C409	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C410	1-124-779-00	ELECT CHIP	10uF	20%	16V
C422	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C423	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C424	1-117-681-11	ELECT CHIP	100uF	20%	16V
C425	1-126-204-11	ELECT CHIP	47uF	20%	16V
C431	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C441	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C463	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C464	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C465	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C466	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

MAIN

Ref. No.	Part No.	Description			Remark
C467	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C468	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C471	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C472	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C473	1-117-681-11	ELECT CHIP	100uF	20%	16V
C474	1-164-346-11	CERAMIC CHIP	1uF		16V
C475	1-126-395-11	ELECT	22uF	20%	16V
C477	1-115-469-31	ELECT	4700uF		16V
C479	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C481	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C482	1-126-204-11	ELECT CHIP	47uF	20%	16V
C483	1-126-197-11	ELECT CHIP	10uF	20%	50V
C485	1-127-820-11	CERAMIC	4.7uF		16V
C486	1-127-820-11	CERAMIC	4.7uF		16V
C487	1-127-820-11	CERAMIC	4.7uF		16V
C488	1-127-820-11	CERAMIC	4.7uF		16V
C489	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C490	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C491	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C492	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C501	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C502	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C503	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C504	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C505	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C506	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C510	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C511	1-125-565-11	DOUBLE LAYERS	0.22F		5.5V
C512	1-125-565-11	DOUBLE LAYERS	0.22F		5.5V
C513	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C514	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
C535	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C557	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C562	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C601	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C602	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C603	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C604	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C605	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C606	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C607	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C608	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C609	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C611	1-124-779-00	ELECT CHIP	10uF	20%	16V
C612	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C613	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C615	1-126-204-11	ELECT CHIP	47uF	20%	16V
C616	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C617	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C618	1-117-681-11	ELECT CHIP	100uF	20%	16V
C619	1-117-681-11	ELECT CHIP	100uF	20%	16V
C620	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C621	1-124-779-00	ELECT CHIP	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C622	1-124-779-00	ELECT CHIP	10uF	20%	16V
C623	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C624	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C626	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C631	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C632	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C633	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C634	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C635	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C636	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C637	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C638	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C639	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C641	1-124-779-00	ELECT CHIP	10uF	20%	16V
C642	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C643	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C645	1-126-204-11	ELECT CHIP	47uF	20%	16V
C646	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C647	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C648	1-117-681-11	ELECT CHIP	100uF	20%	16V
C649	1-117-681-11	ELECT CHIP	100uF	20%	16V
C650	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C651	1-124-779-00	ELECT CHIP	10uF	20%	16V
C652	1-124-779-00	ELECT CHIP	10uF	20%	16V
C653	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C654	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C656	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C657	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C658	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C659	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C660	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C661	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C662	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C664	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C665	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C666	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C669	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C670	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C672	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C673	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C674	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C675	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C676	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C677	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C681	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C682	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C683	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C684	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C685	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C691	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C696	1-124-779-00	ELECT CHIP	10uF	20%	16V
C701	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C705	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V

Ref. No.	Part No.	Description			Remark
C706	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C707	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C751	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C752	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C753	1-164-700-11	CERAMIC CHIP	0.68uF		16V
C754	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C755	1-163-037-11	CERAMIC CHIP	0.022uF	10%	50V
C756	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C757	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C771	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C772	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C773	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C774	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C782	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C784	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C785	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C786	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C787	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C788	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C789	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C796	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C797	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C798	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C799	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C901	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C903	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C904	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C905	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C906	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C909	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C910	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C911	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C912	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C913	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C914	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C915	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C951	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C952	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C953	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C954	1-115-185-11	CERAMIC CHIP	0.033uF	10%	50V
C955	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C956	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C957	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C958	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C959	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
		< CONNECTOR >			
* CN101	1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
CN201	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P			
CN251	1-770-410-11	CONNECTOR, BOARD TO BOARD 18P			
CN271	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)			
* CN291	1-564-506-11	PLUG, CONNECTOR 3P			
CN401	1-779-823-21	CONNECTOR, BOARD TO BOARD 30P			

Ref. No.	Part No.	Description	Remark
CNP401	1-774-701-11	PIN, CONNECTOR 16P	
		< JACK >	
CNJ252	1-691-258-21	JACK (MIC IN)	
CNJ272	1-566-822-41	JACK (REMOTE IN)	
CNP601	1-774-700-21	JACK, PIN 6P (FRONT LINE OUT, REAR LINE OUT,BUS AUDIO IN)	
		< SURGE ABSORBER >	
CP101	1-803-335-21	ABSORBER, CHIP SURGE	
		< DIODE >	
D131	8-719-941-23	DIODE DA204UT106	
D181	8-719-047-98	DIODE HZU5.6B2TRF	
D204	8-719-914-44	DIODE DAP202K-T-146	
D251	8-719-071-71	DIODE HZU8.2B2TRF	
D252	8-719-071-71	DIODE HZU8.2B2TRF	
D253	8-719-071-71	DIODE HZU8.2B2TRF	
D254	8-719-914-44	DIODE DAP202K-T-146	
D255	8-719-071-71	DIODE HZU8.2B2TRF	
D256	8-719-071-71	DIODE HZU8.2B2TRF	
D257	8-719-071-71	DIODE HZU8.2B2TRF	
D258	8-719-071-71	DIODE HZU8.2B2TRF	
D259	8-719-071-71	DIODE HZU8.2B2TRF	
D260	8-719-071-71	DIODE HZU8.2B2TRF	
D261	8-719-071-71	DIODE HZU8.2B2TRF	
D262	8-719-071-71	DIODE HZU8.2B2TRF	
D263	8-719-071-25	DIODE HZU18B2TRF	
D264	8-719-071-25	DIODE HZU18B2TRF	
D265	8-719-071-25	DIODE HZU18B2TRF	
D271	8-719-938-75	DIODE SB05-05CP-TB	
D272	8-719-064-08	DIODE HZU6.8B2TRF	
D273	8-719-071-25	DIODE HZU18B2TRF	
D274	8-719-071-25	DIODE HZU18B2TRF	
D275	8-719-064-03	DIODE HZU16B2TRF	
D276	8-719-105-99	DIODE HZU6.2B2TRF	
D277	8-719-073-01	DIODE MA111-TX	
D278	8-719-073-01	DIODE MA111-TX	
D279	8-719-071-71	DIODE HZU8.2B2TRF	
D280	8-719-071-71	DIODE HZU8.2B2TRF	
D282	8-719-073-01	DIODE MA111-TX	
D283	8-719-073-01	DIODE MA111-TX	
D291	8-719-941-23	DIODE DA204UT106	
D403	8-719-914-43	DIODE DAN202K-T-146	
D421	8-719-977-03	DIODE MA8056-H-TX	
D422	8-719-981-59	DIODE FC805-TL	
D423	8-719-938-75	DIODE SB05-05CP-TB	
D424	8-719-981-59	DIODE FC805-TL	
D431	8-719-064-08	DIODE HZU6.8B2TRF	
D432	8-719-914-43	DIODE DAN202K-T-146	
D441	8-719-914-43	DIODE DAN202K-T-146	
D442	8-719-064-08	DIODE HZU6.8B2TRF	

MAIN

Ref. No.	Part No.	Description	Remark
D461	8-719-420-51	DIODE MA729	
D462	8-719-071-25	DIODE HZU18B2TRF	
D463	8-719-071-25	DIODE HZU18B2TRF	
D464	8-719-071-25	DIODE HZU18B2TRF	
D466	8-719-071-25	DIODE HZU18B2TRF	
D467	8-719-053-18	DIODE 1SR154-400TE-25	
D468	8-719-053-18	DIODE 1SR154-400TE-25	
D471	8-719-073-01	DIODE MA111-TX	
D472	8-719-073-01	DIODE MA111-TX	
D477	8-719-049-38	DIODE 1N5404TU	
D481	8-719-076-95	DIODE PTZ-TE25-18B	
D482	8-719-076-95	DIODE PTZ-TE25-18B	
D483	8-719-076-95	DIODE PTZ-TE25-18B	
D484	8-719-076-95	DIODE PTZ-TE25-18B	
D485	8-719-076-95	DIODE PTZ-TE25-18B	
D486	8-719-076-95	DIODE PTZ-TE25-18B	
D487	8-719-076-95	DIODE PTZ-TE25-18B	
D488	8-719-076-95	DIODE PTZ-TE25-18B	
D489	8-719-064-03	DIODE HZU16B2TRF	
D491	8-719-062-37	DIODE HZU3.9B1TRF	
D527	8-719-073-01	DIODE MA111-TX	
D546	8-719-071-71	DIODE HZU8.2B2TRF	
D555	8-719-976-99	DIODE HZU5.1B2TRF	
D601	8-719-941-23	DIODE DA204UT106	
D631	8-719-941-23	DIODE DA204UT106	
D661	8-719-941-23	DIODE DA204UT106	
D701	8-719-073-01	DIODE MA111-TX	
D702	8-719-073-01	DIODE MA111-TX	
D751	8-719-062-37	DIODE HZU3.9B1TRF	
		< FERRITE BEAD >	
FB201	1-500-240-22	FERRITE BEAD INDUCTOR	
FB202	1-500-240-22	FERRITE BEAD INDUCTOR	
FB203	1-500-240-22	FERRITE BEAD INDUCTOR	
FB207	1-469-564-22	FERRITE BEAD INDUCTOR	
FB301	1-500-240-22	FERRITE BEAD INDUCTOR	
FB302	1-216-295-00	SHORT 0	
FB304	1-216-033-00	METAL CHIP 220 5% 1/10W	
FB305	1-500-240-22	FERRITE BEAD INDUCTOR	
FB351	1-500-056-22	FERRITE BEAD(CHIP)	
FB352	1-500-240-22	FERRITE BEAD INDUCTOR	
FB401	1-216-295-00	SHORT 0	
FB402	1-500-240-22	FERRITE BEAD INDUCTOR	
FB901	1-500-241-22	FERRITE BEAD INDUCTOR	
		< IC >	
IC131	8-759-422-21	IC NJM4580V(TE2)	
IC151	8-759-586-54	IC TDA7427ADTR	
IC271	8-759-593-98	IC BA8270FV-E2	
IC300	8-752-395-98	IC CXD2727Q	
IC351	8-759-524-05	IC TC74VHC126FT(EL)	
IC352	8-759-485-79	IC TC7SET08FU(TE85L)	
IC401	8-759-710-88	IC NJM431U	

Ref. No.	Part No.	Description	Remark
IC402	8-759-643-48	IC BA00ASFP-E2	
IC403	8-759-476-23	IC BA08SFP-E2	
IC404	8-759-460-72	IC BA033FP-E2	
IC421	8-759-525-98	IC RN5VL45CA-TL	
IC481	8-759-486-44	IC TDA7386	
IC500	8-759-593-50	IC MB90574APMT-G-215-BND	
IC506	8-759-571-49	IC XC61AN4102PR	
IC601	8-759-385-17	IC NJM4580E(TE2)	
IC602	8-759-594-52	IC LM1973MX	
IC603	8-759-349-84	IC NJM072BM-TE2	
IC604	8-759-593-97	IC NJM2160AM-TE2	
IC631	8-759-385-17	IC NJM4580E(TE2)	
IC632	8-759-594-52	IC LM1973MX	
IC633	8-759-349-84	IC NJM072BM-TE2	
IC634	8-759-593-97	IC NJM2160AM-TE2	
IC661	8-759-385-17	IC NJM4580E(TE2)	
IC663	8-759-349-84	IC NJM072BM-TE2	
IC691	8-759-488-29	IC TC7W66FU(TE12L)	
IC701	8-759-593-99	IC HD6432355A08F	
IC702	8-759-277-63	IC TC7W14FU(TE12R)	
IC752	8-759-488-29	IC TC7W66FU(TE12L)	
IC771	8-759-473-80	IC BA3131FS-E2	
IC901	8-759-492-59	IC SAA6588T-118	
IC951	8-759-374-66	IC MSM6688GS-2K	
IC952	8-759-180-46	IC MSM6685JSDR1	
		< JUMPER RESISTOR >	
JC100	1-216-295-00	SHORT 0	
JC101	1-216-295-00	SHORT 0	
JC102	1-216-296-00	SHORT 0	
JC103	1-216-296-00	SHORT 0	
JC251	1-216-295-00	SHORT 0	
JC300	1-216-295-00	SHORT 0	
JC901	1-216-296-00	SHORT 0	
		< COIL >	
L181	1-412-060-11	INDUCTOR CHIP 22uH	
L401	1-412-058-11	INDUCTOR CHIP 10uH	
L402	1-412-054-21	INDUCTOR CHIP 2.2uH	
L403	1-412-054-21	INDUCTOR CHIP 2.2uH	
L404	1-412-058-11	INDUCTOR CHIP 10uH	
L506	1-412-060-11	INDUCTOR CHIP 22uH	
L701	1-412-060-11	INDUCTOR CHIP 22uH	
L901	1-412-058-11	INDUCTOR CHIP 10uH	
L951	1-412-060-11	INDUCTOR CHIP 22uH	
L952	1-412-060-11	INDUCTOR CHIP 22uH	
		< TRANSISTOR >	
Q130	8-729-905-35	TRANSISTOR 2SC4081T106R	
Q131	8-729-029-14	TRANSISTOR DTC144EUA-T106	
Q132	8-729-921-25	TRANSISTOR FMC2-T148	
Q133	8-729-905-35	TRANSISTOR 2SC4081T106R	
Q134	8-729-029-14	TRANSISTOR DTC144EUA-T106	

Ref. No.	Part No.	Description		Remark
Q180	8-729-904-63	TRANSISTOR	DTB123YK-T-146	
Q181	8-729-029-14	TRANSISTOR	DTC144EUA-T106	
Q182	8-729-904-63	TRANSISTOR	DTB123YK-T-146	
Q183	8-729-029-14	TRANSISTOR	DTC144EUA-T106	
Q185	8-729-920-85	TRANSISTOR	2SD1664-T101-QR	
Q251	8-729-025-48	TRANSISTOR	XN4381-TX	
Q252	8-729-025-48	TRANSISTOR	XN4381-TX	
Q253	8-729-901-21	TRANSISTOR	DTC144EK-T146	
Q254	8-729-026-53	TRANSISTOR	2SA1576A-T106-QR	
Q255	8-729-905-35	TRANSISTOR	2SC4081T106R	
Q256	8-729-106-60	TRANSISTOR	2SB1132-T101-QR	
Q271	8-729-901-21	TRANSISTOR	DTC144EK-T146	
Q272	8-729-028-91	TRANSISTOR	DTA144EUA-T106	
Q273	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR	
Q274	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR	
Q275	8-729-028-91	TRANSISTOR	DTA144EUA-T106	
Q401	8-729-920-85	TRANSISTOR	2SD1664-T101-QR	
Q402	8-729-106-60	TRANSISTOR	2SB1132-T101-QR	
Q403	8-729-901-21	TRANSISTOR	DTC144EK-T146	
Q421	8-729-822-84	TRANSISTOR	2SB1202FAT-TL	
Q422	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L	
Q423	8-729-901-21	TRANSISTOR	DTC144EK-T146	
Q424	8-729-901-21	TRANSISTOR	DTC144EK-T146	
Q431	8-729-120-28	TRANSISTOR	2SC2412K-T-146-QR	
Q441	8-729-905-35	TRANSISTOR	2SC4081T106R	
Q451	8-729-905-35	TRANSISTOR	2SC4081T106R	
Q461	8-729-049-13	TRANSISTOR	UPA1853GR-9JG-E1	
Q462	8-729-429-92	TRANSISTOR	XN1211-TX	
Q471	8-729-901-21	TRANSISTOR	DTC144EK-T146	
Q472	8-729-026-53	TRANSISTOR	2SA1576A-T106-QR	
Q473	8-729-921-25	TRANSISTOR	FMC2-T148	
Q474	8-729-921-25	TRANSISTOR	FMC2-T148	
Q501	8-729-028-91	TRANSISTOR	DTA144EUA-T106	
Q504	8-729-901-21	TRANSISTOR	DTC144EK-T146	
Q523	8-729-024-31	TRANSISTOR	XN1111-TX	
Q601	8-729-400-56	TRANSISTOR	2SD1328-T-TX	
Q602	8-729-400-56	TRANSISTOR	2SD1328-T-TX	
Q631	8-729-400-56	TRANSISTOR	2SD1328-T-TX	
Q632	8-729-400-56	TRANSISTOR	2SD1328-T-TX	
Q661	8-729-400-56	TRANSISTOR	2SD1328-T-TX	
Q662	8-729-400-56	TRANSISTOR	2SD1328-T-TX	
Q691	8-729-029-14	TRANSISTOR	DTC144EUA-T106	
Q751	8-729-921-25	TRANSISTOR	FMC2-T148	
Q752	8-729-047-71	TRANSISTOR	FMG12-T-148	
Q753	8-729-920-21	TRANSISTOR	DTC314TK-T-146	
Q754	8-729-429-92	TRANSISTOR	XN1211-TX	
Q901	8-729-921-25	TRANSISTOR	FMC2-T148	

< RESISTOR >

R101	1-216-025-00	RES,CHIP	100	5%	1/10W
R102	1-216-037-00	METAL CHIP	330	5%	1/10W
R104	1-216-073-00	METAL CHIP	10K	5%	1/10W
R105	1-216-081-00	METAL CHIP	22K	5%	1/10W
R106	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R114	1-216-864-11	METAL CHIP	0	5%	1/16W
R124	1-216-037-00	METAL CHIP	330	5%	1/10W
R131	1-216-845-11	METAL CHIP	100K	5%	1/16W
R132	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R133	1-216-821-11	METAL CHIP	1K	5%	1/16W
R135	1-216-833-11	RES,CHIP	10K	5%	1/16W
R136	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R137	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R138	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R139	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R140	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R141	1-216-845-11	METAL CHIP	100K	5%	1/16W
R142	1-216-121-00	RES,CHIP	1M	5%	1/10W
R143	1-216-025-00	RES,CHIP	100	5%	1/10W
R151	1-216-017-00	RES,CHIP	47	5%	1/10W
R153	1-216-001-00	METAL CHIP	10	5%	1/10W
R154	1-216-813-11	METAL CHIP	220	5%	1/16W
R155	1-216-813-11	METAL CHIP	220	5%	1/16W
R157	1-216-025-00	RES,CHIP	100	5%	1/10W
R158	1-216-073-00	METAL CHIP	10K	5%	1/10W
R159	1-216-073-00	METAL CHIP	10K	5%	1/10W
R160	1-216-097-00	RES,CHIP	100K	5%	1/10W
R161	1-216-077-00	RES,CHIP	15K	5%	1/10W
R162	1-216-083-00	METAL CHIP	27K	5%	1/10W
R181	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R182	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R201	1-216-089-00	RES,CHIP	47K	5%	1/10W
R202	1-216-295-00	SHORT	0		
R251	1-218-710-11	METAL CHIP	5.6K	0.50%	1/16W
R252	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R253	1-216-845-11	METAL CHIP	100K	5%	1/16W
R254	1-216-049-11	RES,CHIP	1K	5%	1/10W
R255	1-216-025-00	RES,CHIP	100	5%	1/10W
R256	1-216-025-00	RES,CHIP	100	5%	1/10W
R257	1-216-833-11	RES,CHIP	10K	5%	1/16W
R258	1-216-833-11	RES,CHIP	10K	5%	1/16W
R259	1-208-462-41	RES,CHIP	10K	2%	1/10W
R260	1-208-462-41	RES,CHIP	10K	2%	1/10W
R261	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R262	1-216-049-11	RES,CHIP	1K	5%	1/10W
R263	1-216-049-11	RES,CHIP	1K	5%	1/10W
R264	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R265	1-216-041-00	METAL CHIP	470	5%	1/10W
R271	1-216-001-00	METAL CHIP	10	5%	1/10W
R272	1-216-073-00	METAL CHIP	10K	5%	1/10W
R273	1-216-025-00	RES,CHIP	100	5%	1/10W
R274	1-216-025-00	RES,CHIP	100	5%	1/10W
R275	1-216-841-11	METAL CHIP	47K	5%	1/16W
R276	1-216-841-11	METAL CHIP	47K	5%	1/16W
R277	1-216-845-11	METAL CHIP	100K	5%	1/16W
R278	1-216-845-11	METAL CHIP	100K	5%	1/16W
R279	1-216-025-00	RES,CHIP	100	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
R280	1-216-025-00	RES,CHIP	100	5%	1/10W
R281	1-208-462-41	RES,CHIP	10K	2%	1/10W
R282	1-208-462-41	RES,CHIP	10K	2%	1/10W
R283	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R285	1-216-841-11	METAL CHIP	47K	5%	1/16W
R291	1-218-732-11	METAL CHIP	47K	0.50%	1/16W
R292	1-218-732-11	METAL CHIP	47K	0.50%	1/16W
R293	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R294	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R331	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R333	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R334	1-216-821-11	METAL CHIP	1K	5%	1/16W
R335	1-216-821-11	METAL CHIP	1K	5%	1/16W
R337	1-216-821-11	METAL CHIP	1K	5%	1/16W
R340	1-216-841-11	METAL CHIP	47K	5%	1/16W
R341	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R351	1-216-033-00	METAL CHIP	220	5%	1/10W
R352	1-216-295-00	SHORT	0		
R353	1-216-295-00	SHORT	0		
R354	1-216-295-00	SHORT	0		
R401	1-216-033-00	METAL CHIP	220	5%	1/10W
R402	1-216-045-00	METAL CHIP	680	5%	1/10W
R403	1-216-033-00	METAL CHIP	220	5%	1/10W
R404	1-216-041-00	METAL CHIP	470	5%	1/10W
R405	1-216-045-00	METAL CHIP	680	5%	1/10W
R406	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R408	1-216-295-00	SHORT	0		
R411	1-216-295-00	SHORT	0		
R421	1-216-089-00	RES,CHIP	47K	5%	1/10W
R422	1-216-680-11	METAL CHIP	16K	0.5%	1/10W
R423	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R430	1-216-821-11	METAL CHIP	1K	5%	1/16W
R431	1-216-081-00	METAL CHIP	22K	5%	1/10W
R432	1-216-081-00	METAL CHIP	22K	5%	1/10W
R434	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R441	1-216-839-11	METAL CHIP	33K	5%	1/16W
R442	1-216-841-11	METAL CHIP	47K	5%	1/16W
R443	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R444	1-216-841-11	METAL CHIP	47K	5%	1/16W
R451	1-216-833-11	RES,CHIP	10K	5%	1/16W
R452	1-216-833-11	RES,CHIP	10K	5%	1/16W
R453	1-216-845-11	METAL CHIP	100K	5%	1/16W
R454	1-216-839-11	METAL CHIP	33K	5%	1/16W
R461	1-216-073-00	METAL CHIP	10K	5%	1/10W
R462	1-216-073-00	METAL CHIP	10K	5%	1/10W
R463	1-216-073-00	METAL CHIP	10K	5%	1/10W
R464	1-216-073-00	METAL CHIP	10K	5%	1/10W
R466	1-216-833-11	RES,CHIP	10K	5%	1/16W
R471	1-216-073-00	METAL CHIP	10K	5%	1/10W
R472	1-216-833-11	RES,CHIP	10K	5%	1/16W
R473	1-216-809-11	METAL CHIP	100	5%	1/16W
R474	1-216-821-11	METAL CHIP	1K	5%	1/16W
R475	1-216-837-11	METAL CHIP	22K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R476	1-216-821-11	METAL CHIP	1K	5%	1/16W
R477	1-216-049-11	RES,CHIP	1K	5%	1/10W
R478	1-216-845-11	METAL CHIP	100K	5%	1/16W
R479	1-216-833-11	RES,CHIP	10K	5%	1/16W
R481	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R482	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R483	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R484	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R485	1-216-837-11	METAL CHIP	22K	5%	1/16W
R486	1-216-837-11	METAL CHIP	22K	5%	1/16W
R487	1-216-837-11	METAL CHIP	22K	5%	1/16W
R488	1-216-837-11	METAL CHIP	22K	5%	1/16W
R501	1-216-097-00	RES,CHIP	100K	5%	1/10W
R502	1-216-821-11	METAL CHIP	1K	5%	1/16W
R503	1-216-864-11	METAL CHIP	0	5%	1/16W
R505	1-216-097-00	RES,CHIP	100K	5%	1/10W
R506	1-216-813-11	METAL CHIP	220	5%	1/16W
R509	1-216-033-00	METAL CHIP	220	5%	1/10W
R510	1-216-097-00	RES,CHIP	100K	5%	1/10W
R511	1-216-845-11	METAL CHIP	100K	5%	1/16W
R513	1-216-295-00	SHORT	0		
R514	1-216-033-00	METAL CHIP	220	5%	1/10W
R515	1-216-033-00	METAL CHIP	220	5%	1/10W
R516	1-216-813-11	METAL CHIP	220	5%	1/16W
R517	1-216-813-11	METAL CHIP	220	5%	1/16W
R519	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R520	1-216-097-00	RES,CHIP	100K	5%	1/10W
R521	1-216-845-11	METAL CHIP	100K	5%	1/16W
R522	1-216-097-00	RES,CHIP	100K	5%	1/10W
R524	1-216-295-00	SHORT	0		
R525	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R526	1-216-097-00	RES,CHIP	100K	5%	1/10W
R528	1-216-295-00	SHORT	0		
R529	1-216-813-11	METAL CHIP	220	5%	1/16W
R530	1-216-033-00	METAL CHIP	220	5%	1/10W
R531	1-216-813-11	METAL CHIP	220	5%	1/16W
R548	1-216-839-11	METAL CHIP	33K	5%	1/16W (TYPE A,B)
R548	1-216-841-11	METAL CHIP	47K	5%	1/16W (TYPE C)
R551	1-216-841-11	METAL CHIP	47K	5%	1/16W (TYPE C)
R551	1-216-845-11	METAL CHIP	100K	5%	1/16W (TYPE A,B)
R585	1-216-839-11	METAL CHIP	33K	5%	1/16W (TYPE C)
R585	1-216-841-11	METAL CHIP	47K	5%	1/16W (TYPE B)
R585	1-216-845-11	METAL CHIP	100K	5%	1/16W (TYPE A)
R587	1-216-097-00	RES,CHIP	100K	5%	1/10W
R591	1-216-839-11	METAL CHIP	33K	5%	1/16W (TYPE A)

Ref. No.	Part No.	Description			Remark
R591	1-216-841-11	METAL CHIP	47K	5%	1/16W (TYPE B)
R591	1-216-845-11	METAL CHIP	100K	5%	1/16W (TYPE C)
R595	1-216-049-11	RES,CHIP	1K	5%	1/10W
R601	1-218-711-11	METAL CHIP	6.2K	0.50%	1/16W
R602	1-216-833-11	RES,CHIP	10K	5%	1/16W
R603	1-216-841-11	METAL CHIP	47K	5%	1/16W
R604	1-218-711-11	METAL CHIP	6.2K	0.50%	1/16W
R605	1-216-833-11	RES,CHIP	10K	5%	1/16W
R606	1-216-841-11	METAL CHIP	47K	5%	1/16W
R607	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R608	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R609	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R610	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R612	1-202-926-11	RES,CHIP	36K	5%	1/16W
R613	1-218-293-11	RES,CHIP	24K	5%	1/16W
R614	1-218-293-11	RES,CHIP	24K	5%	1/16W
R615	1-202-926-11	RES,CHIP	36K	5%	1/16W
R616	1-216-833-11	RES,CHIP	10K	5%	1/16W
R617	1-216-833-11	RES,CHIP	10K	5%	1/16W
R618	1-216-033-00	METAL CHIP	220	5%	1/10W
R619	1-216-049-11	RES,CHIP	1K	5%	1/10W
R620	1-216-049-11	RES,CHIP	1K	5%	1/10W
R621	1-216-033-00	METAL CHIP	220	5%	1/10W
R622	1-216-081-00	METAL CHIP	22K	5%	1/10W
R623	1-216-081-00	METAL CHIP	22K	5%	1/10W
R627	1-216-833-11	RES,CHIP	10K	5%	1/16W
R628	1-216-833-11	RES,CHIP	10K	5%	1/16W
R629	1-216-833-11	RES,CHIP	10K	5%	1/16W
R630	1-216-833-11	RES,CHIP	10K	5%	1/16W
R631	1-218-711-11	METAL CHIP	6.2K	0.50%	1/16W
R632	1-216-833-11	RES,CHIP	10K	5%	1/16W
R633	1-216-841-11	METAL CHIP	47K	5%	1/16W
R634	1-218-711-11	METAL CHIP	6.2K	0.50%	1/16W
R635	1-216-833-11	RES,CHIP	10K	5%	1/16W
R636	1-216-841-11	METAL CHIP	47K	5%	1/16W
R637	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R638	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R639	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R640	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R642	1-202-926-11	RES,CHIP	36K	5%	1/16W
R643	1-218-293-11	RES,CHIP	24K	5%	1/16W
R644	1-218-293-11	RES,CHIP	24K	5%	1/16W
R645	1-202-926-11	RES,CHIP	36K	5%	1/16W
R646	1-216-833-11	RES,CHIP	10K	5%	1/16W
R647	1-216-833-11	RES,CHIP	10K	5%	1/16W
R648	1-216-033-00	METAL CHIP	220	5%	1/10W
R649	1-216-049-11	RES,CHIP	1K	5%	1/10W
R650	1-216-049-11	RES,CHIP	1K	5%	1/10W
R651	1-216-033-00	METAL CHIP	220	5%	1/10W
R652	1-216-081-00	METAL CHIP	22K	5%	1/10W
R653	1-216-081-00	METAL CHIP	22K	5%	1/10W
R657	1-216-073-00	METAL CHIP	10K	5%	1/10W
R658	1-216-073-00	METAL CHIP	10K	5%	1/10W
R661	1-216-073-00	METAL CHIP	10K	5%	1/10W
R662	1-216-073-00	METAL CHIP	10K	5%	1/10W
R663	1-216-089-00	RES,CHIP	47K	5%	1/10W
R667	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
R668	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R668	1-218-730-11	METAL CHIP	39K	0.50%	1/16W
R669	1-218-720-11	METAL CHIP	15K	0.50%	1/16W
R670	1-218-730-11	METAL CHIP	39K	0.50%	1/16W
R678	1-216-033-00	METAL CHIP	220	5%	1/10W
R679	1-216-049-11	RES,CHIP	1K	5%	1/10W
R680	1-216-049-11	RES,CHIP	1K	5%	1/10W
R681	1-216-033-00	METAL CHIP	220	5%	1/10W
R682	1-216-081-00	METAL CHIP	22K	5%	1/10W
R683	1-216-081-00	METAL CHIP	22K	5%	1/10W
R691	1-216-833-11	RES,CHIP	10K	5%	1/16W
R692	1-216-833-11	RES,CHIP	10K	5%	1/16W
R693	1-216-841-11	METAL CHIP	47K	5%	1/16W
R695	1-216-845-11	METAL CHIP	100K	5%	1/16W
R696	1-216-097-00	RES,CHIP	100K	5%	1/10W
R701	1-216-845-11	METAL CHIP	100K	5%	1/16W
R702	1-216-845-11	METAL CHIP	100K	5%	1/16W
R703	1-216-845-11	METAL CHIP	100K	5%	1/16W
R704	1-216-033-00	METAL CHIP	220	5%	1/10W
R705	1-216-033-00	METAL CHIP	220	5%	1/10W
R706	1-216-033-00	METAL CHIP	220	5%	1/10W
R707	1-216-025-00	RES,CHIP	100	5%	1/10W
R709	1-216-041-00	METAL CHIP	470	5%	1/10W
R710	1-216-033-00	METAL CHIP	220	5%	1/10W
R711	1-216-097-00	RES,CHIP	100K	5%	1/10W
R713	1-216-809-11	METAL CHIP	100	5%	1/16W
R714	1-216-864-11	METAL CHIP	0	5%	1/16W
R716	1-216-845-11	METAL CHIP	100K	5%	1/16W
R717	1-216-845-11	METAL CHIP	100K	5%	1/16W
R718	1-216-845-11	METAL CHIP	100K	5%	1/16W
R720	1-216-097-00	RES,CHIP	100K	5%	1/10W
R721	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R751	1-216-813-11	METAL CHIP	220	5%	1/16W
R752	1-216-813-11	METAL CHIP	220	5%	1/16W
R753	1-216-081-00	METAL CHIP	22K	5%	1/10W
R754	1-216-081-00	METAL CHIP	22K	5%	1/10W
R756	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R757	1-216-081-00	METAL CHIP	22K	5%	1/10W
R758	1-216-049-11	RES,CHIP	1K	5%	1/10W
R759	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R760	1-216-841-11	METAL CHIP	47K	5%	1/16W
R761	1-216-841-11	METAL CHIP	47K	5%	1/16W
R762	1-216-841-11	METAL CHIP	47K	5%	1/16W
R763	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R764	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R771	1-218-732-11	METAL CHIP	47K	0.50%	1/16W
R772	1-218-732-11	METAL CHIP	47K	0.50%	1/16W

MAIN

Ref. No.	Part No.	Description			Remark
R773	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W (TYPE A,B)
R773	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W (TYPE C)
R774	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W (TYPE A,B)
R774	1-218-728-11	METAL CHIP	33K	0.50%	1/16W (TYPE C)
R775	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R776	1-218-706-11	METAL CHIP	3.9K	0.50%	1/16W
R777	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R778	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W
R779	1-218-700-11	METAL CHIP	2.2K	0.50%	1/16W (TYPE A,B)
R779	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W (TYPE C)
R780	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W (TYPE A,B)
R780	1-218-728-11	METAL CHIP	33K	0.50%	1/16W (TYPE C)
R781	1-218-732-11	METAL CHIP	47K	0.50%	1/16W
R782	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W
R783	1-218-706-11	METAL CHIP	3.9K	0.50%	1/16W
R784	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R785	1-218-712-11	METAL CHIP	6.8K	0.50%	1/16W
R786	1-218-732-11	METAL CHIP	47K	0.50%	1/16W
R787	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R788	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R789	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R791	1-208-795-11	RES,CHIP	3.6K	2%	1/10W
R792	1-208-795-11	RES,CHIP	3.6K	2%	1/10W
R797	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R798	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R799	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R901	1-216-113-00	METAL CHIP	470K	5%	1/10W
R902	1-216-821-11	METAL CHIP	1K	5%	1/16W
R903	1-216-077-00	RES,CHIP	15K	5%	1/10W
R904	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R905	1-216-817-11	METAL CHIP	470	5%	1/16W
R906	1-216-813-11	METAL CHIP	220	5%	1/16W
R907	1-216-813-11	METAL CHIP	220	5%	1/16W
R951	1-216-097-00	RES,CHIP	100K	5%	1/10W
R952	1-216-097-00	RES,CHIP	100K	5%	1/10W
R953	1-216-097-00	RES,CHIP	100K	5%	1/10W
R954	1-216-105-00	RES,CHIP	220K	5%	1/10W
R955	1-216-089-00	RES,CHIP	47K	5%	1/10W
R956	1-216-097-00	RES,CHIP	100K	5%	1/10W
R957	1-216-073-00	METAL CHIP	10K	5%	1/10W
R958	1-216-025-00	RES,CHIP	100	5%	1/10W
R959	1-216-025-00	RES,CHIP	100	5%	1/10W
R960	1-216-295-00	SHORT	0		
R961	1-216-025-00	RES,CHIP	100	5%	1/10W
R962	1-216-049-11	RES,CHIP	1K	5%	1/10W
R963	1-216-845-11	METAL CHIP	100K	5%	1/16W
R964	1-216-845-11	METAL CHIP	100K	5%	1/16W
R965	1-216-025-00	RES,CHIP	100	5%	1/10W
R966	1-216-025-00	RES,CHIP	100	5%	1/10W
R967	1-216-025-00	RES,CHIP	100	5%	1/10W
R968	1-216-025-00	RES,CHIP	100	5%	1/10W
R969	1-216-025-00	RES,CHIP	100	5%	1/10W
R970	1-216-809-11	METAL CHIP	100	5%	1/16W
R971	1-216-809-11	METAL CHIP	100	5%	1/16W
R972	1-216-025-00	RES,CHIP	100	5%	1/10W
R973	1-216-025-00	RES,CHIP	100	5%	1/10W
R974	1-216-097-00	RES,CHIP	100K	5%	1/10W
R975	1-216-097-00	RES,CHIP	100K	5%	1/10W
R976	1-216-097-00	RES,CHIP	100K	5%	1/10W
R977	1-216-097-00	RES,CHIP	100K	5%	1/10W
		< NETWORK RESISTOR >			
RB251	1-233-412-11	RES, CHIP NETWORK	1.0K (3216)		
RB252	1-233-412-11	RES, CHIP NETWORK	1.0K (3216)		
RB301	1-233-578-11	RES, CHIP NETWORK	47K		
RB502	1-233-412-11	RES, CHIP NETWORK	1.0K (3216)		
RB504	1-216-182-00	RES, CHIP NETWORK	220 (3216)		
RB505	1-233-412-11	RES, CHIP NETWORK	1.0K (3216)		
RB507	1-216-182-00	RES, CHIP NETWORK	220 (3216)		
RB508	1-216-182-00	RES, CHIP NETWORK	220 (3216)		
RB509	1-216-182-00	RES, CHIP NETWORK	220 (3216)		
		< VARIABLE RESISTOR >			
RV131	1-238-718-11	RES, ADJ, METAL GLAZE	470K		
		< SWITCH >			
S500	1-762-108-31	SWITCH, PUSH (1 KEY) (NOSE DET)			
		< THERMISTOR (POSITIVE) >			
TH271	1-801-792-21	THERMISTOR, POSITIVE			
TH461	1-803-615-21	THERMISTOR, POSITIVE			
TH462	1-803-615-21	THERMISTOR, POSITIVE			
		< TUNER >			
TU101	A-3282-045-A	TUNER UNIT (TUX-012(E))			
		< VIBRATOR >			
X151	1-781-361-21	VIBRATOR, CRYSTAL (10.25MHz)			
X300	1-767-408-21	VIBRATOR, CRYSTAL (16.9344MHz)			
X500	1-781-660-21	VIBRATOR, CERAMIC (3.58MHz)			
X501	1-760-928-21	VIBRATOR, CRYSTAL (32.768kHz)			
X701	1-781-030-21	VIBRATOR, CRYSTAL (18.432MHz)			
X901	1-781-536-11	VIBRATOR, CRYSTAL (4.332MHz)			
X951	1-579-843-11	VIBRATOR, CRYSTAL (4.19MHz)			

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Ref. No.	Part No.	Description			Remark
*	A-3294-739-A	POWER BOARD, COMPLETE (TYPE A) (SUPPLIED WITH MAIN BOARD, COMPLETE)			
*	A-3294-742-A	POWER BOARD, COMPLETE (TYPE B) (SUPPLIED WITH MAIN BOARD, COMPLETE)			
*	A-3294-746-A	POWER BOARD, COMPLETE (TYPE C) (SUPPLIED WITH MAIN BOARD, COMPLETE)			
		**********			
*	3-036-995-01	BRACKET (POWER)			
		< CAPACITOR >			
C801	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C802	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C803	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C804	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C805	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C806	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C807	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C808	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C809	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C810	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C811	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C812	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C813	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C814	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C815	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C816	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C817	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C818	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C841	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C842	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C844	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C845	1-164-690-11	CERAMIC CHIP	0.0022uF	5%	50V
C846	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C847	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C848	1-164-690-11	CERAMIC CHIP	0.0022uF	5%	50V
C849	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C850	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C851	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C852	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C853	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C854	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C855	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C856	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C857	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C858	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C859	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C860	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C861	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C862	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C863	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C864	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C865	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C866	1-162-927-11	CERAMIC CHIP	100PF	5%	50V

Ref. No.	Part No.	Description			Remark
C871	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C872	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C873	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C874	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C875	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C876	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C877	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C878	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C879	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C880	1-128-975-11	ELECT CHIP	22uF		20V
C881	1-128-975-11	ELECT CHIP	22uF		20V
C882	1-126-200-11	ELECT CHIP	10uF	20%	35V
C883	1-117-681-11	ELECT CHIP	100uF	20%	16V
C884	1-124-779-00	ELECT CHIP	10uF	20%	16V
C886	1-126-204-11	ELECT CHIP	47uF	20%	16V
C887	1-126-204-11	ELECT CHIP	47uF	20%	16V
C888	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C890	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C891	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
		< CONNECTOR >			
CN801	1-779-821-11	CONNECTOR, BOARD TO BOARD 30P			
		< DIODE >			
D841	8-719-064-08	DIODE HZU6.8B2TRF			
D842	8-719-047-98	DIODE HZU5.6B2TRF			
D871	8-719-055-30	DIODE D1FS4A-TA			
D872	8-719-054-47	DIODE D3FS4A-TA			
D873	8-719-071-64	DIODE HZU6.2B1TRF			
D891	8-719-976-96	DIODE MA8047-H-TX			
D892	8-719-420-51	DIODE MA729-TX			
		< FERRITE BEAD >			
FB801	1-500-245-11	FERRITE BEAD INDUCTOR			
FB802	1-500-245-11	FERRITE BEAD INDUCTOR			
FB803	1-500-245-11	FERRITE BEAD INDUCTOR			
FB804	1-500-245-11	FERRITE BEAD INDUCTOR			
FB805	1-500-245-11	FERRITE BEAD INDUCTOR			
FB806	1-469-312-21	ARRAY, FERRITE CHIP			
FB807	1-469-312-21	ARRAY, FERRITE CHIP			
		< IC >			
IC801	8-759-538-27	IC RSC-164			
IC802	8-759-523-81	IC TC74VHC08FT(EL)			
IC803	8-759-639-73	IC MSM534001E-49TSKFDR3 (TYPE A)			
IC803	8-759-639-74	IC MSM534001E-50TSKFDR3 (TYPE B)			
IC803	8-759-639-75	IC MSM534001E-51TSKFDR3 (TYPE C)			
IC804	8-759-058-64	IC TC7S32FU-TE85L			
IC805	8-759-534-72	IC MBM29F800TA			
IC841	8-759-338-78	IC BA10324AFV-E2			
IC843	8-759-100-96	IC NJM4558M-T2			
IC871	8-759-990-43	IC TL1451ACDB-E20			

POWER

Ref. No.	Part No.	Description			Remark
		< JUMPER RESISTOR >			
JC841	1-216-295-00	SHORT	0		
		< COIL >			
L801	1-412-060-11	INDUCTOR CHIP	22uH		
L802	1-412-058-11	INDUCTOR CHIP	10uH		
L841	1-412-058-11	INDUCTOR CHIP	10uH		
L842	1-412-058-11	INDUCTOR CHIP	10uH		
L871	1-414-408-11	INDUCTOR CHIP	1uH		
L872	1-411-499-11	INDUCTOR	47uH		
L873	1-412-054-21	INDUCTOR CHIP	2.2uH		
L874	1-411-499-11	INDUCTOR	47uH		
L875	1-412-054-21	INDUCTOR CHIP	2.2uH		
		< TRANSISTOR >			
Q801	8-729-904-63	TRANSISTOR	DTB123YK-T-146		
Q802	8-729-029-14	TRANSISTOR	DTC144EUA-T106		
Q841	8-729-920-85	TRANSISTOR	2SD1664-T101-QR		
Q881	8-729-921-25	TRANSISTOR	FMC2-T148		
Q882	8-729-026-59	TRANSISTOR	FMY1A-T148		
Q883	8-729-039-28	TRANSISTOR	HAT1026R-EL		
Q884	8-729-822-84	TRANSISTOR	2SB1202FAT-TL		
Q885	8-729-807-12	TRANSISTOR	2SD1802FAT-TL		
Q886	8-729-049-13	TRANSISTOR	UPA1853GR-9JG-E1		
Q887	8-729-429-92	TRANSISTOR	XN1211-TX		
Q888	8-729-807-12	TRANSISTOR	2SD1802FAT-TL		
Q890	1-801-806-11	TRANSISTOR	DTC144EK-T146		
		< RESISTOR >			
R801	1-216-864-11	METAL CHIP	0	5%	1/16W
R802	1-216-295-00	SHORT	0		
R803	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R804	1-216-025-00	RES,CHIP	100	5%	1/10W
R805	1-216-025-00	RES,CHIP	100	5%	1/10W
R806	1-216-295-00	SHORT	0		
R807	1-216-295-00	SHORT	0		
R808	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R809	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R810	1-216-109-00	METAL CHIP	330K	5%	1/10W
R811	1-216-109-00	METAL CHIP	330K	5%	1/10W
R812	1-216-097-00	RES,CHIP	100K	5%	1/10W
R813	1-216-001-00	METAL CHIP	10	5%	1/10W
R814	1-216-809-11	METAL CHIP	100	5%	1/16W
R815	1-216-809-11	METAL CHIP	100	5%	1/16W
R816	1-216-809-11	METAL CHIP	100	5%	1/16W
R817	1-216-809-11	METAL CHIP	100	5%	1/16W
R818	1-216-809-11	METAL CHIP	100	5%	1/16W
R819	1-216-049-11	RES,CHIP	1K	5%	1/10W
R820	1-216-089-00	RES,CHIP	47K	5%	1/10W
R821	1-216-821-11	METAL CHIP	1K	5%	1/16W
R822	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R841	1-216-025-00	RES,CHIP	100	5%	1/10W

Ref. No.	Part No.	Description			Remark
R842	1-216-049-11	RES,CHIP	1K	5%	1/10W
R843	1-216-025-00	RES,CHIP	100	5%	1/10W
R844	1-216-073-00	METAL CHIP	10K	5%	1/10W
R845	1-216-093-00	RES,CHIP	68K	5%	1/10W
R846	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R847	1-216-841-11	METAL CHIP	47K	5%	1/16W
R848	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R849	1-216-855-11	METAL CHIP	680K	5%	1/16W
R850	1-216-091-00	METAL CHIP	56K	5%	1/10W
R851	1-216-073-00	METAL CHIP	10K	5%	1/10W
R852	1-216-081-00	METAL CHIP	22K	5%	1/10W
R853	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R854	1-216-833-11	RES,CHIP	10K	5%	1/16W
R855	1-218-294-11	RES,CHIP	30K	5%	1/16W
R856	1-216-835-11	METAL CHIP	15K	5%	1/16W
R857	1-216-845-11	METAL CHIP	100K	5%	1/16W
R858	1-216-821-11	METAL CHIP	1K	5%	1/16W
R859	1-216-833-11	RES,CHIP	10K	5%	1/16W
R860	1-218-294-11	RES,CHIP	30K	5%	1/16W
R861	1-216-837-11	METAL CHIP	22K	5%	1/16W
R862	1-216-841-11	METAL CHIP	47K	5%	1/16W
R863	1-216-841-11	METAL CHIP	47K	5%	1/16W
R864	1-216-821-11	METAL CHIP	1K	5%	1/16W
R865	1-216-841-11	METAL CHIP	47K	5%	1/16W
R866	1-216-833-11	RES,CHIP	10K	5%	1/16W
R867	1-216-837-11	METAL CHIP	22K	5%	1/16W
R868	1-216-049-11	RES,CHIP	1K	5%	1/10W
R869	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R871	1-216-033-00	METAL CHIP	220	5%	1/10W
R872	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R873	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R874	1-208-445-41	RES,CHIP	2.2K	2%	1/10W
R875	1-208-811-11	RES,CHIP	16K	2%	1/10W
R876	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R877	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W
R879	1-216-041-00	METAL CHIP	470	5%	1/10W
R881	1-216-077-00	RES,CHIP	15K	5%	1/10W
R882	1-208-811-11	RES,CHIP	16K	2%	1/10W
R883	1-216-077-00	RES,CHIP	15K	5%	1/10W
R884	1-216-085-00	METAL CHIP	33K	5%	1/10W
R885	1-216-085-00	METAL CHIP	33K	5%	1/10W
R886	1-216-085-00	METAL CHIP	33K	5%	1/10W
R887	1-216-085-00	METAL CHIP	33K	5%	1/10W
R888	1-216-039-00	METAL CHIP	390	5%	1/10W
R889	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R890	1-216-813-11	METAL CHIP	220	5%	1/16W
R891	1-216-815-11	METAL CHIP	330	5%	1/16W
R892	1-216-833-11	RES,CHIP	10K	5%	1/16W
R893	1-216-073-00	METAL CHIP	10K	5%	1/10W
R895	1-218-738-11	METAL CHIP	82K	0.50%	1/16W
R896	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R897	1-216-845-11	METAL CHIP	100K	5%	1/16W

Ref. No.	Part No.	Description			Remark
		< NETWORK RESISTOR >			
RB801	1-233-576-11	RES, CHIP NETWORK 100			
RB802	1-233-576-11	RES, CHIP NETWORK 100			
RB803	1-233-576-11	RES, CHIP NETWORK 100			
RB804	1-233-576-11	RES, CHIP NETWORK 100			
RB805	1-233-576-11	RES, CHIP NETWORK 100			
RB806	1-233-576-11	RES, CHIP NETWORK 100			
		< VIBRATOR >			
X801	1-781-090-21	VIBRATOR, CRYSTAL (14.318MHz)			
**********					
*	A-3294-744-A	RELAY BOARD, COMPLETE			
		**********			
	3-040-760-01	SHEET (CONNECTOR)			
		< CAPACITOR >			
C701	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C702	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C705	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C706	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN701	1-793-290-11	SOCKET, CONNECTOR 18P			
CN702	1-779-169-11	SOCKET, CONNECTOR 18P			
		< DIODE >			
D701	8-719-056-84	DIODE HZU7.5B2TRF			
D702	8-719-056-84	DIODE HZU7.5B2TRF			
D703	8-719-056-84	DIODE HZU7.5B2TRF			
D704	8-719-056-84	DIODE HZU7.5B2TRF			
D705	8-719-056-84	DIODE HZU7.5B2TRF			
D706	8-719-056-84	DIODE HZU7.5B2TRF			
D707	8-719-071-25	DIODE HZU18B2TRF			
LED703	8-719-064-72	LED BG1101F-10-TR (CD WINDOW)			
LED704	8-719-064-72	LED BG1101F-10-TR (CD WINDOW)			
LED705	8-719-051-01	LED CL-170HR-CD-T (TIR)			
		< SWITCH >			
LSW701	1-771-703-11	SWITCH, KEY BOARD (WITH LED) (⏏)			
		< RESISTOR >			
R701	1-216-025-00	RES,CHIP	100	5%	1/10W
R707	1-216-295-00	SHORT	0		
		< SWITCH >			
S703	1-572-921-11	SWITCH, KEY BOARD (RESET)			
**********					

Ref. No.	Part No.	Description			Remark
*	A-3313-381-A	SERVO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C2	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C3	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C4	1-110-456-11	ELECT CHIP	47uF	20%	16V
C101	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C102	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C105	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C106	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C107	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C110	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C111	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C112	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C113	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C203	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C204	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C206	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C207	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C208	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C209	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C301	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C303	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C304	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C305	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C306	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C307	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C308	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C309	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C310	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C311	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C312	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C313	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C501	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C502	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C503	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C504	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C505	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C506	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C507	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C508	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C509	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C510	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C511	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C513	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C514	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C527	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C551	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C601	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

SERVO

Ref. No.	Part No.	Description			Remark
C603	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C605	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P			
CN2	1-766-491-11	CONNECTOR, FPC 17P			
CN4	1-770-347-21	CONNECTOR, FPC 6P			
* CN5	1-569-775-21	PIN, CONNECTOR (SMD) 5P			
		< FERRITE BEAD >			
FB101	1-500-445-21	FERRITE BEAD INDUCTOR			
FB102	1-500-445-21	FERRITE BEAD INDUCTOR			
FB103	1-500-445-21	FERRITE BEAD INDUCTOR			
FB501	1-500-445-21	FERRITE BEAD INDUCTOR			
FB503	1-500-445-21	FERRITE BEAD INDUCTOR			
		< IC >			
IC1	8-752-069-29	IC CXA1791N-T4			
IC2	8-752-374-12	IC CXD2522R-T6			
IC4	8-759-427-15	IC MB814400C-70PFTN			
IC5	8-752-904-92	IC CXP84640-050Q			
IC6	8-759-823-87	IC LB1638MTP-T1			
IC7	8-759-370-18	IC BA6797FP-E2			
IC501	8-752-378-67	IC CXD2548R			
IC551	8-759-428-57	IC LC89170M-TLM			
IC601	8-759-335-52	IC BA6195FP-YT2			
		< TRANSISTOR >			
Q1	8-729-901-05	TRANSISTOR DTA124EK-T146			
Q2	8-729-011-95	TRANSISTOR RN2426TE85L			
Q3	8-729-141-48	TRANSISTOR 2SB624T1-BV345			
Q4	8-729-901-00	TRANSISTOR DTC124EKA-T146			
Q5	8-729-901-00	TRANSISTOR DTC124EKA-T146			
		< RESISTOR >			
R101	1-216-295-00	SHORT	0		
R102	1-216-081-00	METAL CHIP	22K	5%	1/10W
R103	1-216-081-00	METAL CHIP	22K	5%	1/10W
R104	1-216-103-00	METAL CHIP	180K	5%	1/10W
R105	1-216-103-00	METAL CHIP	180K	5%	1/10W
R106	1-216-001-00	METAL CHIP	10	5%	1/10W
R108	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R109	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R110	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R111	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R112	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R113	1-216-073-00	METAL CHIP	10K	5%	1/10W
R114	1-216-097-00	RES,CHIP	100K	5%	1/10W
R115	1-216-073-00	METAL CHIP	10K	5%	1/10W
R140	1-216-073-00	METAL CHIP	10K	5%	1/10W
R141	1-216-081-00	METAL CHIP	22K	5%	1/10W
R142	1-216-089-00	RES,CHIP	47K	5%	1/10W
R143	1-216-093-00	RES,CHIP	68K	5%	1/10W
R203	1-216-097-00	RES,CHIP	100K	5%	1/10W

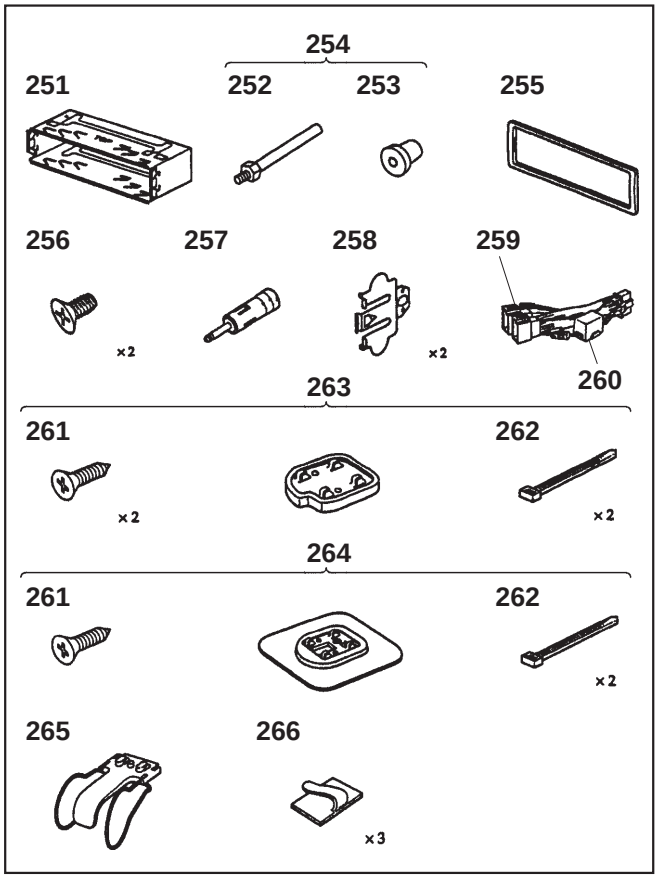
Ref. No.	Part No.	Description			Remark
R209	1-216-089-00	RES,CHIP	47K	5%	1/10W
R210	1-216-841-11	METAL CHIP	47K	5%	1/16W
R213	1-216-049-11	RES,CHIP	1K	5%	1/10W
R214	1-216-864-11	METAL CHIP	0	5%	1/16W
R217	1-216-081-00	METAL CHIP	22K	5%	1/10W
R218	1-216-089-00	RES,CHIP	47K	5%	1/10W
R219	1-216-097-00	RES,CHIP	100K	5%	1/10W
R220	1-216-097-00	RES,CHIP	100K	5%	1/10W
R222	1-216-845-11	METAL CHIP	100K	5%	1/16W
R223	1-216-841-11	METAL CHIP	47K	5%	1/16W
R224	1-216-841-11	METAL CHIP	47K	5%	1/16W
R301	1-216-025-00	RES,CHIP	100	5%	1/10W
R302	1-216-037-00	METAL CHIP	330	5%	1/10W
R303	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R304	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R305	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R306	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R307	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R308	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R309	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R310	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R311	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R312	1-216-121-00	RES,CHIP	1M	5%	1/10W
R313	1-216-089-00	RES,CHIP	47K	5%	1/10W
R314	1-216-103-00	METAL CHIP	180K	5%	1/10W
R315	1-216-085-00	METAL CHIP	33K	5%	1/10W
R316	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R317	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R318	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R319	1-216-675-00	METAL CHIP	10K	0.50%	1/10W
R320	1-216-097-00	RES,CHIP	100K	5%	1/10W
R333	1-216-864-11	METAL CHIP	0	5%	1/16W
R334	1-216-089-00	RES,CHIP	47K	5%	1/10W
R398	1-216-296-00	SHORT	0		
R399	1-216-296-00	SHORT	0		
R501	1-216-097-00	RES,CHIP	100K	5%	1/10W
R502	1-216-073-00	METAL CHIP	10K	5%	1/10W
R503	1-216-121-00	RES,CHIP	1M	5%	1/10W
R504	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R505	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R506	1-216-073-00	METAL CHIP	10K	5%	1/10W
R507	1-216-125-00	METAL CHIP	1.5M	5%	1/10W
R508	1-216-105-00	RES,CHIP	220K	5%	1/10W
R509	1-216-113-00	METAL CHIP	470K	5%	1/10W
R510	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R511	1-216-073-00	METAL CHIP	10K	5%	1/10W
R519	1-216-081-00	METAL CHIP	22K	5%	1/10W
R524	1-216-813-11	METAL CHIP	220	5%	1/16W
R525	1-216-813-11	METAL CHIP	220	5%	1/16W
R526	1-216-813-11	METAL CHIP	220	5%	1/16W
R527	1-216-813-11	METAL CHIP	220	5%	1/16W
R528	1-216-296-00	SHORT	0		
R529	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R530	1-216-295-00	SHORT	0		
R531	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R532	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R533	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R551	1-216-089-00	RES,CHIP	47K	5%	1/10W
R552	1-216-809-11	METAL CHIP	100	5%	1/16W
R553	1-216-809-11	METAL CHIP	100	5%	1/16W
R554	1-216-809-11	METAL CHIP	100	5%	1/16W
R555	1-216-809-11	METAL CHIP	100	5%	1/16W
R601	1-216-081-00	METAL CHIP	22K	5%	1/10W
R602	1-216-295-00	SHORT	0		
R603	1-216-085-00	METAL CHIP	33K	5%	1/10W
R604	1-216-097-00	RES,CHIP	100K	5%	1/10W
R605	1-216-081-00	METAL CHIP	22K	5%	1/10W
		< VIBRATOR >			
X1	1-760-365-11	VIBRATOR, CERAMIC (10MHz)			
**********					
*	1-659-834-11	SUB BOARD			
		**********			
		< CONNECTOR >			
CN1	1-770-347-21	CONNECTOR, FPC 6P			
**********					
		MISCELLANEOUS			
		**********			
18	1-790-355-31	CORD (WITH CONNECTOR) (RCA) (SUB OUT)			
19	1-776-527-71	CORD (WITH CONNECTOR) (ISO) (POWER)			
20	1-777-246-21	CORD (WITH CONNECTOR) (ANTENNA)			
25	1-791-458-11	CABLE, POWER (WITH CHOKE COIL) (POWER)			
207	1-659-880-11	MOTOR FLEXIBLE BOARD			
⚠210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP			
212	1-659-881-11	PICK-UP FLEXIBLE BOARD			
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A			
M901	X-3373-096-1	MOTOR ASSY (SPINDLE)			
M902	A-3301-107-A	MOTOR ASSY, SLED (SLED)			
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING (LOADING)			
**********					

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-475-951-11	ROTARY COMMANDER (RM-X4V)	
	1-475-982-11	UNIT (MICROPHONE)	
	3-023-882-01	LABEL (V M) (for RM-X4V)	
	3-339-410-01	COVER (2), PIN JACK	
	3-865-978-11	INSTRUCTION (ENGLISH,FRENCH,GERMAN, SPANISH,DUTCH,SWEDISH, ITALIAN,PORTUGUESE,RUSSIAN, TRADITIONAL CHINESE,CZECH, POLISH,TURKISH,GREEK) (for ROTARY COMMANDER)	
	3-866-781-11	MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE,SWEDISH) (TYPE B)	
	3-866-781-21	MANUAL, INSTRUCTION (FRENCH,GERMAN, DUTCH,ITALIAN,RUSSIAN) (TYPE A)	
	3-866-781-31	MANUAL, INSTRUCTION (GERMAN) (TYPE C)	
	3-866-783-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,PORTUGUESE,SWEDISH) (TYPE B)	
	3-866-783-21	MANUAL, INSTRUCTION, INSTALL (FRENCH, GERMAN,DUTCH,ITALIAN,RUSSIAN) (TYPE A,C)	
	3-867-585-11	MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE,SWEDISH) (TYPE B) (for MICROPHONE and ROTARY COMMANDER)	
	3-867-585-21	MANUAL, INSTRUCTION (FRENCH,GERMAN, DUTCH,ITALIAN,RUSSIAN) (TYPE A,C) (for MICROPHONE and ROTARY COMMANDER)	
	X-3373-926-1	CASE ASSY (XR) (for FRONT PANEL)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#3	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	
#4	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE3	
#5	7-621-772-20	SCREW +B 2X5	
#6	7-627-850-28	SCREW, PRECISION +P 1.4X3	
#7	7-628-253-00	SCREW +PS 2X4	
#8	7-627-553-17	SCREW, PRECISION +P 2X2 TYPE3	
#9	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	
#10	7-621-775-08	SCREW +B 2.6X3	
**********			

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
251	3-009-613-21	FRAME	
252	3-386-828-01	SCREW, FITTING	
253	3-349-410-01	BUSHING	
254	X-3366-405-1	SCREW ASSY (EXP), FITTING	
255	3-022-310-01	COLLAR	
256	3-934-325-01	SCREW, +K (5X8) TAPPING	
257	1-465-459-21	ADAPTOR, ANTENNA	
258	3-027-138-01	SPRING, FITTING	
259	1-776-527-71	CORD (WITH CONNECTOR) (ISO) (POWER)	
260	1-791-458-11	CABLE, POWER (WITH CHOKE COIL) (POWER)	
261	7-685-248-14	SCREW +KTP 3X12 TYPE4	
* 262	3-671-893-00	CLAMP (LOW TYPE)	
263	X-3369-817-1	BRACKET ASSY (for RM-X4V) (TYPE B)	
264	X-3373-432-1	BRACKET ASSY (for RM-X4V) (TYPE A,C)	
265	X-3375-861-2	HOLDER (MIC) ASSY	
266	3-389-594-11	CLAMP, CORD	



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Mobile Electronics Company

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